

FINAL REPORT

City of Newark Citywide Speed Limits Study Engineering & Traffic Survey

Prepared For:

The City of Newark, CA

June 27, 2019



Prepared By:



**CITY OF NEWARK
CITYWIDE SPEED LIMITS STUDY
ENGINEERING & TRAFFIC SURVEY**

**Prepared For
THE CITY OF NEWARK, CA**

**FINAL REPORT
June 27, 2019**

Prepared By

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INTRODUCTION

The following report presents the findings of an “engineering and traffic speed survey” study conducted for the City of Newark, California. The study consisted of radar speed surveys and analyses of roadway data in order to establish speed limits for the evaluated streets. The speed surveys identified the “85th-percentile speed” (also referred to as the “critical speed”), which is defined as the speed at which 85 percent of the drivers are traveling at or below. Speed limits are generally established by analysis of the surveyed 85th-percentile speeds in combination with the observed street characteristics. Ultimately, the designation of safe and efficient speed limits depends on sound engineering judgment. Input from police enforcement personnel regarding the recommendations should also be considered before speed limits are established.

RESULTS / RECOMMENDATIONS

The surveys indicate maintaining the existing speed limits is recommended for 42 of the 45 evaluated street segments. Speed limit changes are recommended for the following three street segments: Stevenson Boulevard (west of Cherry St.) change speed limit from 40 mph to 35 mph; Willow Street (between Cedar Blvd. and Thornton Ave.), and Willow Street (between Thornton Ave. and Central Ave.) change speed limit from 40/45 mph to 35 mph. Recommendations for several other street segments regarding additional or supplemental signing have also been included. The findings and recommendations for each street are presented in the following sections.

BACKGROUND METHODOLOGY

In order to set and maintain speed limits on City streets, *Engineering & Traffic Speed Surveys* must be periodically conducted as set forth in the California State Vehicle Code (CVC) in order to provide proper and enforceable speed limits. Speed limits are set based on various factors, including measured speeds, physical roadway characteristics, accident history, daily traffic volumes, and adjacent land uses.

The California State Vehicle Code section 40802 establishes the basis for conducting engineering and traffic surveys to determine speed limits and defines when engineering & traffic speed surveys must be conducted.¹ The regulations state that in order to avoid a speed trap for streets where the speed limit is enforced by radar the speed limit must be justified by an engineering and traffic survey conducted within five years prior to the date of the alleged violation. The regulation allows surveys to be conducted every seven years if a City has an on-going program in place which incorporates several criteria (training of police officers in correct radar operation, radar devices that meet operational standards, and have been calibrated within three years of the alleged violation). The timeframe can be extended to ten years if a registered engineer “determines that no significant changes in roadway or traffic conditions have occurred, including, but not limited to, changes in adjoining property or land use, roadway width, or traffic volumes”.

Some road types are exempt from the above requirements and have inherent prima facie speed limits unless a different speed is determined by local authority. For example, a 25 mph speed limit is presumed in a business district, residential district, or school zone (Section 22352), and for local roads. Section 40802 defines a local road as one that is functionally classified as “local” on the “California Road System Maps”, or if it does not appear on the map, it can be classified as a local road if it primarily provides access to abutting residential property and is (A) not more than 40 feet wide, (B) not more than one-half mile of uninterrupted length, and (C) not more than one traffic lane in each direction.

Section 627 of the California Vehicle Code outlines what information an engineering and traffic survey should include. The section states, “(a) ‘Engineering and traffic survey,’ as used in this code, means a survey of highway and traffic conditions in accordance with methods determined by the Department of Transportation for use by state and local authorities. (b) An engineering and traffic survey shall include, among other requirements deemed necessary by the department, consideration of all of the following:

- (1) Prevailing speeds as determined by traffic engineering measurements.
 - (2) Accident records.
 - (3) Highway, traffic, and roadside conditions not readily apparent to the driver.
- (c) When conducting an engineering and traffic survey, local authorities, in addition to the factors set forth in paragraphs (1) to (3), inclusive, of subdivision (b) may consider all of the following:
- (1) Residential density, if any of the following conditions exist on the particular portion of highway and the property contiguous thereto, other than a business district:
 - (A) Upon one side of the highway, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 13 or more separate dwelling houses or business structures.
 - (B) Upon both sides of the highway, collectively, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 16 or more separate dwelling houses or business structures.
 - (C) The portion of highway is longer than one-quarter of a mile but has the ratio of separate dwelling houses or business structures to the length of the highway described in either subparagraph (A) or (B).
 - (2) Pedestrian and bicyclist safety.

The California Manual on Uniform Traffic Control Devices, Section 2B.13 provides the procedures used to apply surveyed speed data in establishing speed limits.² When a speed limit is posted, it shall be at the nearest 5 mph increment of the 85th-percentile speed. The speed may be reduced by 5 mph from the nearest 5 mph increment of the 85th-percentile speed in accordance with CVC Sections 627 and 22358.5. Or, if the nearest 5 mph increment would require rounding up, then the speed may be rounded down to the nearest 5 mph increment below the 85th-percentile speed.

DATA COLLECTION

The data collection included identifying the roadway characteristics for each of the evaluated street segments, including number of lanes, roadway alignment, and adjacent land use, as well as speed surveys.³

The accident histories for each of the segments were identified based on accident data provided by the City of Newark. The accident histories identified the total number of accidents and the number of speed related accidents. An accident rate was calculated for each segment, which incorporates the number of accidents and the average daily traffic volume. The rate is expressed in the number of accidents per million vehicle miles of travel (accs/mvm). The calculated rates were compared to statewide averages for similar streets.⁴

A Speed Limit Engineering & Traffic Survey (E&TS) worksheet was completed for each roadway segment. The worksheets are attached along with the speed summary worksheets. The E&TS worksheet contains information that includes posted speed limit, measured critical speed, roadway characteristics, accident rates, and the survey recommendations.

A summary of the survey data is provided in Table 1. The street locations and recommended speed limits are also illustrated in Figure 1.

References

1. California Department of Motor Vehicles, Vehicle Code, Sections 40802-40803, 2019.
2. California Manual on Uniform Traffic Control Devices, 2014 Edition, Revision 3.
3. Radar Speed Surveys conducted by GHD/Omni-Means, and Baymetrics, 8/15/17-9/13/17; 3/18/19-5/3/19.
4. California Department of Transportation, 2014 Collision Data on California State Highways, Business, Transportation, and Housing Agency, Division of Traffic Operations, Sacramento, CA.

**TABLE 1
STREET LOCATIONS AND SURVEY SUMMARIES**

Location #	Street	ADT	Length (mi.)	Ave. Accs./Year	Accident Rate (a/mvm)	Statewide Accident Rate (a/mvm)	85th-Percentile Speed (mph)	Existing Speed Limit (mph)	Recommended Speed Limit (mph)
1	Balentine Drive (between Stevenson Blvd. and Cedar Blvd.)	9,555	0.65	0.60	0.26	2.04	39.0	35	35
2	Carter Avenue (between Sycamore St. and Filbert St.)	3,518	0.13	1.00	5.99	2.21	36.0	30	30
3	Cedar Boulevard (between Bridgepointe Dr. and Willow St.)	745	0.08	0.00	0.00	2.21	28.0	25	25
4	Cedar Boulevard (between Haley St. and Lido Blvd.)	3,225	0.56	0.80	1.21	2.21	37.0	30	30
5	Cedar Boulevard (between Lido Blvd. and Central Ave.)	15,913	2.11	7.60	0.62	2.04	41.0	35	35
6	Cedar Boulevard (between Central Ave. and Moores Ave.)	12,702	0.70	0.80	0.25	2.04	44.0	40	40
7	Cedar Boulevard (between Moores Ave. and Stevenson Blvd.)	9,762	1.58	4.20	0.75	2.04	40.0	35	35
8	Central Avenue (between I-880 and Cherry St.)	11,655	0.85	1.40	0.39	2.04	42.0	35	35
9	Central Avenue (between Cherry St. and Willow St.)	15,457	1.50	3.80	0.45	2.04	44.0	40	40
10	Cherry Street (between Mirabeau Dr. and Thornton Ave.)	5,561	1.00	0.80	0.39	2.21	30.0	25	25
11	Cherry Street (between Thornton Ave. and Central Ave.)	10,413	0.53	1.40	0.69	2.04	40.2	35	35
12	Cherry Street (between Central Ave. and Stevenson Blvd.)	18,348	2.00	4.00	0.30	1.92	50.0	45	45
13	Clark Avenue (between Cherry Street and Sycamore Street)	1,693	0.30	0.60	3.24	2.21	39.0	35	35
14	Edgewater Drive (between Lake Blvd. and Cedar Blvd.)	4,782	1.29	0.20	0.09	2.21	34.0	30	30
15	Enterprise Drive (between Willow St. and Filbert St.)	1,439	0.88	1.00	2.16	2.04	39.0	35	35
16	Eureka Drive (loop road between Stevenson Blvd.)	1,149	0.63	0.40	1.51	2.21	32.0	35	35
17	Filbert Street (between Carter Ave. and Enterprise Dr.)	3,518	0.21	0.60	2.23	2.21	37.0	30	30
18	Filbert Street (between Enterprise Dr. and Central Ave.)	3,601	0.25	0.00	0.00	2.21	41.0	35	35
19	Fircrest Street (between Jarvis Avenue and Gateway Blvd.)	2,051	0.17	0.00	0.00	2.21	36.0	35	35
20	Gateway Boulevard (between Fircrest St. and Jarvis Ave.)	775	0.69	0.60	3.07	2.21	36.2	35	35
21	Gateway Boulevard (between Jarvis Ave. and Thornton Ave.)	7,671	0.16	0.60	1.34	4.74	38.0	35	35
22	Haley Street (between Jarvis Ave. and Mayhews Landing Rd.)	6,125	0.95	1.20	0.57	2.21	34.0	30	30
23	Jarvis Avenue (between Lake Blvd. and Lido Blvd.)	15,195	0.70	3.40	0.88	2.04	42.0	35	35
24	Jarvis Avenue (between Lido Blvd. and Gateway Blvd.)	10,378	1.00	1.40	0.37	1.92	49.0	45	45
25	Joaquin Murieta Avenue (between Cedar Blvd. and Cherry St.)	3,729	0.35	0.80	1.68	2.21	32.0	25	25
26	Lafayette Avenue (between Cedar Blvd. and Cherry St.)	1,889	0.90	0.40	0.64	2.21	29.0	25	25
27	Lake Boulevard (between Jarvis Ave. and Cedar Blvd.)	5,695	0.57	0.40	0.34	2.21	34.0	30	30
28	Lido Boulevard (between Jarvis Ave. and Cedar Blvd.)	4,092	0.30	0.40	0.89	1.57	37.0	30	30
29	Mayhews Landing Road (between Thornton Ave. and Willow St.)	4,040	1.62	2.80	1.17	2.21	32.0	25	25
30	Mowry School Road (between Balentine Dr. and Cedar Blvd.)	1,155	0.21	0.20	2.26	2.21	32.0	30	30
31	Mowry Avenue (between I-880 and west City Limit)	24,651	1.61	4.40	0.30	2.04	39.0	35	35
32	Newark Boulevard (between Route-84 and Central Ave.)	20,699	2.17	11.40	0.70	2.04	41.0	35	35
33	Parkshore Drive (between Lake Blvd. and Edgewater Dr.)	1,047	0.32	0.20	1.64	2.21	36.0	30	30
34	Smith Avenue (between Cedar Blvd. and Cherry St.)	2,266	0.69	0.00	0.00	2.21	32.0	25	25
35	Spruce Street (between Jarvis Ave. and Wells Ave.)	1,633	1.37	2.00	2.45	2.21	31.0	25	25
36	Stevenson Boulevard (between I-880 and Cherry St.)	21,978	0.70	0.60	0.11	2.04	44.0	40	40
37	Stevenson Boulevard (west of Cherry St.)	8,475	0.57	0.20	0.11	2.04	40.0	40	35 (New)
38	Sycamore Street (between Mayhews Landing Rd. and Carter Ave.)	5,339	0.55	1.00	0.93	2.21	36.0	30	30
39	Sycamore Street (between Carter Ave. and Central Ave.)	4,819	0.49	0.40	0.46	2.21	41.0	35	35
40	Thornton Avenue (between I-880 and Cherry St.)	20,239	1.11	4.20	0.51	2.04	41.0	35	35
41	Thornton Avenue (between Cherry St. and Willow St.)	12,354	1.13	1.60	0.31	2.21	37.0	35	35
42	Thornton Avenue (between Willow St. and Gateway Blvd.)	11,759	1.16	2.20	0.44	2.21	52.0	45	45
43	Thornton Avenue (between Gateway Blvd. and Route-84)	17,623	0.32	0.20	0.10	1.48	49.0	45	45
44	Willow Street (between Cedar Blvd. and Thornton Ave.)	5,177	0.24	0.00	0.00	2.21	37.2	40	35 (New)
45	Willow Street (between Thornton Ave. and Central Ave.)	6,336	0.68	1.00	0.64	2.21	39.0	40	35 (New)

Engineering & Traffic Surveys

1. Balentine Drive (between Stevenson Blvd. and Cedar Blvd.)

Balentine Drive is oriented in a primarily north-south direction from Stevenson Boulevard to an intersection for the NewPark Shopping Center, then curves in a primarily east-west direction to Cedar Boulevard. Balentine Drive consists of four through lanes with a center two-way left turn lane between Stevenson Blvd. and the NewPark Mall intersection, then centerline striping to Cedar Boulevard. It is flat with a moderate curve near Mowry School Road as well as the turn in the roadway at NewPark Mall. Street parking is not allowed. The road is classified as a collector road in the Newark General Plan. It is located in a retail/commercial area with driveways on both sides of the street serving parking lots to automobile dealerships, retail centers, offices, and a hotel.

Speed Data

The segment has a posted speed limit of 35 mph. There are speed limit signs for both directions on the east-west section between Cedar Boulevard and NewPark Mall. For the north-south section between Newpark Mall and Stevenson Boulevard, there is a southbound speed limit sign located south of the NewPark Mall intersection, but there is no northbound speed limit sign. The measured 85th-percentile speed was recorded as follows:

<u>Balentine Drive:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
Stevenson Blvd. to Cedar Blvd.	35 mph	39.0 mph	35 mph (no change)

Recommendation

Based on the measured speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The combination of higher speed through vehicles and lower speed vehicles turning in and out of driveways along the segment warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Improvements

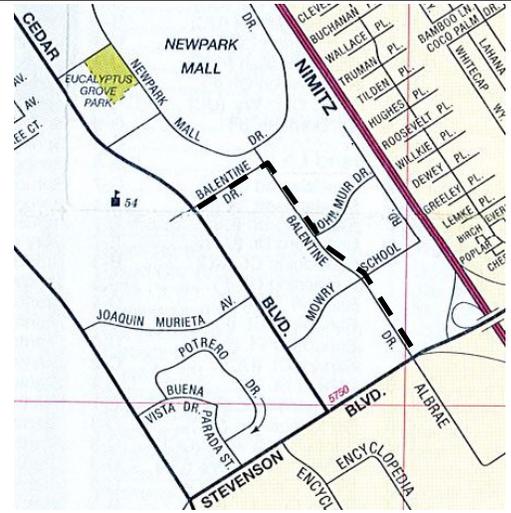
It is recommended that a 35 mph speed limit sign be installed for the northbound direction north of Stevenson Boulevard.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **BALENTINE DRIVE**
Limits: **between Stevenson Boulevard and Cedar Boulevard**

SPEED DATA

Location of Survey: between Mowry School Rd. and Jonh Muir Dr.
Date Taken: 8/15/17
Posted Speed Limit: 35 mph
85th Percentile Speed: 39.0 mph
10-mph Pace Speed: 29-38 mph
% Vehicles in Pace/Above/Below: 78% / 17% / 5%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 3 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 3)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.26 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.65 mile
Average Daily Traffic: 9,555 ADT
Street Classification: Collector
No. of lanes: 4 lanes with center turn lanes and undivided section.
Roadway Characteristics: Broad horizontal curve in middle of segment and right-angle curve near north end.
Adjacent Land Use: Commercial businesses including automobile dealerships, retail, office, and hotel.
Other Conditions: Parking lot driveways on both sides serving commercial businesses with turning traffic in and out.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include higher speed through-vehicles and lower speed vehicles turning in and out of driveways, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK **DATE: 8/15/2017** **DAY: TUESDAY** **TIME: 9:05-10:15AM 1:00-2:00PM**

1. BALENTINE DRIVE BETWEEN STEVENSON BOULEVARD & CEDAR BOULEVARD

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%									
25 mph	0	0.0%	0.0%	25 mph	1	1.0%	1.0%	25 mph	1	0.5%	0.5%									
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	1.0%	26 mph	0	0.0%	0.5%									
27 mph	1	1.0%	1.0%	27 mph	4	4.0%	5.0%	27 mph	5	2.5%	3.0%									
28 mph	2	2.0%	3.0%	28 mph	2	2.0%	7.0%	28 mph	4	2.0%	5.0%									
29 mph	6	6.0%	9.0%	29 mph	5	5.0%	12.0%	29 mph	11	5.5%	10.5%									
30 mph	11	11.0%	20.0%	30 mph	4	4.0%	16.0%	30 mph	15	7.5%	18.0%									
31 mph	8	8.0%	28.0%	31 mph	9	9.0%	25.0%	31 mph	17	8.5%	26.5%									
32 mph	14	14.0%	42.0%	32 mph	9	9.0%	34.0%	32 mph	23	11.5%	38.0%									
33 mph	7	7.0%	49.0%	33 mph	6	6.0%	40.0%	33 mph	13	6.5%	44.5%									
34 mph	7	7.0%	56.0%	34 mph	11	11.0%	51.0%	34 mph	18	9.0%	53.5%									
35 mph	10	10.0%	66.0%	35 mph	10	10.0%	61.0%	35 mph	20	10.0%	63.5%									
36 mph	12	12.0%	78.0%	36 mph	6	6.0%	67.0%	36 mph	18	9.0%	72.5%									
37 mph	3	3.0%	81.0%	37 mph	5	5.0%	72.0%	37 mph	8	4.0%	76.5%									
38 mph	6	6.0%	87.0%	38 mph	7	7.0%	79.0%	38 mph	13	6.5%	83.0%									
39 mph	2	2.0%	89.0%	39 mph	4	4.0%	83.0%	39 mph	6	3.0%	86.0%									
40 mph	1	1.0%	90.0%	40 mph	3	3.0%	86.0%	40 mph	4	2.0%	88.0%									
41 mph	1	1.0%	91.0%	41 mph	4	4.0%	90.0%	41 mph	5	2.5%	90.5%									
42 mph	4	4.0%	95.0%	42 mph	3	3.0%	93.0%	42 mph	7	3.5%	94.0%									
43 mph	1	1.0%	96.0%	43 mph	3	3.0%	96.0%	43 mph	4	2.0%	96.0%									
44 mph	0	0.0%	96.0%	44 mph	3	3.0%	99.0%	44 mph	3	1.5%	97.5%									
45 mph	3	3.0%	99.0%	45 mph	0	0.0%	99.0%	45 mph	3	1.5%	99.0%									
46 mph	0	0.0%	99.0%	46 mph	0	0.0%	99.0%	46 mph	0	0.0%	99.0%									
47 mph	1	1.0%	100.0%	47 mph	1	1.0%	100.0%	47 mph	2	1.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%									
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%									
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%									
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%									
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	34.3	TOTAL:	100	100.0%		AVERAGE SPEED:	34.8	TOTAL:	200	100.0%		AVERAGE SPEED:	34.5			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	30.0	30.0	31.0	34.0	38.0	40.1	SPEEDS:	29.0	30.0	31.8	34.0	40.0	41.1	SPEEDS:	29.0	30.0	31.0	34.0	39.0	41.0
10 MPH PACE SPEED	29-38	NUMBER IN PACE		84	PERCENT:	84.0%	10 MPH PACE SPEED	29-38	NUMBER IN PACE		72	PERCENT:	72.0%	10 MPH PACE SPEED	29-38	NUMBER IN PACE:		156	PERCENT:	78.0%
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	100	80	34	10	1	0	TOTAL:	99	84	39	14	1	0	TOTAL:	199	164	73	24	2	0
PERCENTAGE:	100.0%	80.0%	34.0%	10.0%	1.0%	0.0%	PERCENTAGE:	99.0%	84.0%	39.0%	14.0%	1.0%	0.0%	PERCENTAGE:	99.5%	82.0%	36.5%	12.0%	1.0%	0.0%

2. Carter Avenue (between Sycamore St. and Filbert St.)

Carter Avenue extends west from Sycamore Street then curves south to Wells Avenue where it becomes Filbert Street. The segment crosses railroad tracks at the curve location. It consists of two through lanes separated by two-way left turn lanes and a center median at the railroad crossing. There are striped bicycle lanes and striped shoulder/parking lanes. It is classified as a collector road in the Newark General Plan. The adjacent properties include residential uses (some with direct driveway access) and industrial/commercial uses.

Speed Data

There is an existing posted speed limit of 30 mph. There is a westbound/southbound speed limit sign located near Sycamore Street and a northbound/eastbound sign near Wells Avenue. There are also “Curve” warning speed signs (15 mph northbound and 20 mph southbound) in advance of the curve across the railroad tracks. The measured 85th-percentile speed was recorded as follows:

<u>Carter Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Sycamore St. to Filbert St.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	30 mph	36.0 mph	30 mph (no change)

Recommendation

Based on the measured 85th percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 30 mph. The curved section, railroad crossing, direct residential access with traffic turning and out, and the presence of higher speed vehicles and lower speed trucks to/from industrial properties, warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 35 mph, resulting in a 30 mph speed limit.

Improvements

Field reviews indicate all speed signs are visible and in appropriate condition.

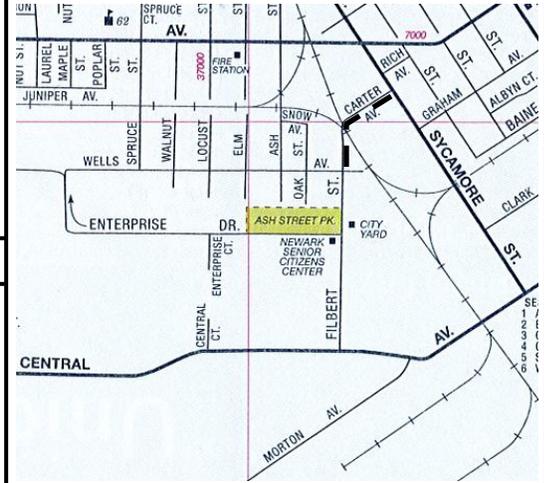
The “Curve” warning signs have an advisory speed of 15 mph for the northbound direction and 20 mph for the southbound direction. It is recommended the City confirm that the different speeds are correct for each direction or if they should be the same speed.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: CARTER AVENUE
Limits: between Sycamore Street and Filbert Street

SPEED DATA

Location of Survey: between Sycamore St. and Filbert St.
Date Taken: 8/22/17
Existing Speed Limit: 30 mph
85th Percentile Speed: 36.0 mph
10-mph Pace Speed: 28-37 mph
% Vehicles in Pace/Above/Below: 77% / 7% / 16%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 5 ('12 = 0, '13 = 2, '14 = 0, '15 = 0, '16 = 3)
Speed Related Accidents: Total = 1 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 1)
Accident Rate (accs. per million vehicle miles): 5.99 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.13 mile
Average Daily Traffic: 3,518 ADT
Street Classification: Collector
No. of lanes: 2 lanes with two way left turn lane and center median.
Roadway Characteristics: Curved and straight sections; striped bicycle and shoulder/parking lanes. Street parking allowed. Railroad crossing.
Adjacent Land Use: Combination of residential and industrial/commercial uses.
Other Conditions: Mix of higher speed through-vehicles and lower speed passenger cars and trucks turning in and out of driveways.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include higher speed through-vehicles and lower speed vehicles turning in and out of driveways, and proximity of residential area with associated pedestrian activity, it is recommended an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 35 mph, resulting in a 30 mph speed limit.

Recommended Speed Limit = 30 mph

Existing Speed Limit = 30 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

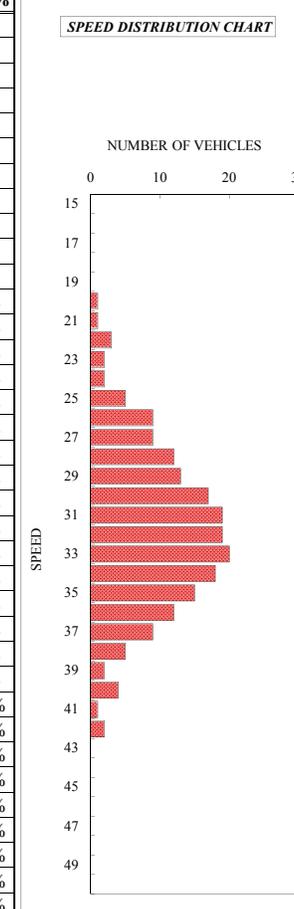
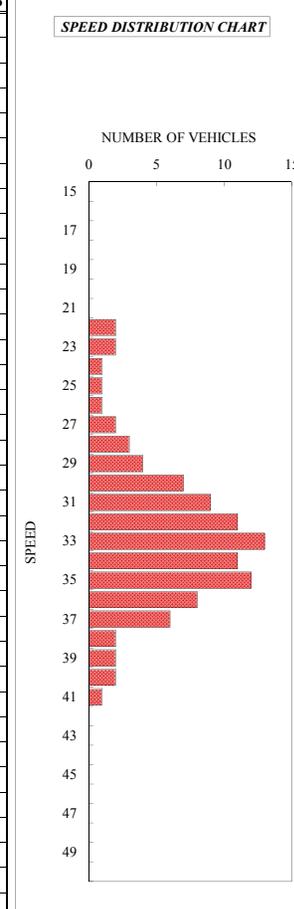
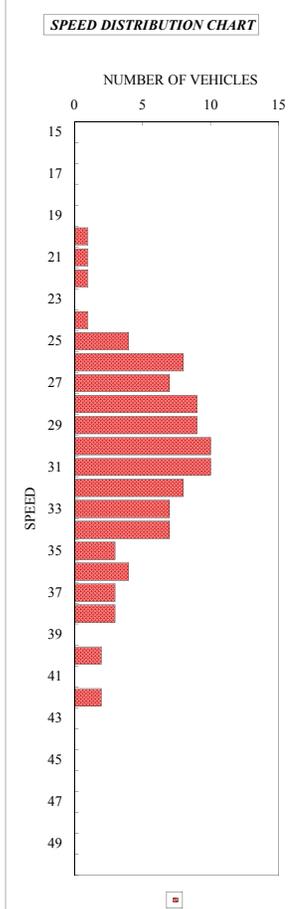
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK **DATE: 8/22/2017** **DAY: TUESDAY** **TIME: 2:45-4:30PM**

2. CARTER AVENUE BETWEEN SYCAMORE STREET & FILBERT STREET

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%									
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%									
20 mph	1	1.0%	1.0%	20 mph	0	0.0%	0.0%	20 mph	1	0.5%	0.5%									
21 mph	1	1.0%	2.0%	21 mph	0	0.0%	0.0%	21 mph	1	0.5%	1.0%									
22 mph	1	1.0%	3.0%	22 mph	2	2.0%	2.0%	22 mph	3	1.5%	2.5%									
23 mph	0	0.0%	3.0%	23 mph	2	2.0%	4.0%	23 mph	2	1.0%	3.5%									
24 mph	1	1.0%	4.0%	24 mph	1	1.0%	5.0%	24 mph	2	1.0%	4.5%									
25 mph	4	4.0%	8.0%	25 mph	1	1.0%	6.0%	25 mph	5	2.5%	7.0%									
26 mph	8	8.0%	16.0%	26 mph	1	1.0%	7.0%	26 mph	9	4.5%	11.5%									
27 mph	7	7.0%	23.0%	27 mph	2	2.0%	9.0%	27 mph	9	4.5%	16.0%									
28 mph	9	9.0%	32.0%	28 mph	3	3.0%	12.0%	28 mph	12	6.0%	22.0%									
29 mph	9	9.0%	41.0%	29 mph	4	4.0%	16.0%	29 mph	13	6.5%	28.5%									
30 mph	10	10.0%	51.0%	30 mph	7	7.0%	23.0%	30 mph	17	8.5%	37.0%									
31 mph	10	10.0%	61.0%	31 mph	9	9.0%	32.0%	31 mph	19	9.5%	46.5%									
32 mph	8	8.0%	69.0%	32 mph	11	11.0%	43.0%	32 mph	19	9.5%	56.0%									
33 mph	7	7.0%	76.0%	33 mph	13	13.0%	56.0%	33 mph	20	10.0%	66.0%									
34 mph	7	7.0%	83.0%	34 mph	11	11.0%	67.0%	34 mph	18	9.0%	75.0%									
35 mph	3	3.0%	86.0%	35 mph	12	12.0%	79.0%	35 mph	15	7.5%	82.5%									
36 mph	4	4.0%	90.0%	36 mph	8	8.0%	87.0%	36 mph	12	6.0%	88.5%									
37 mph	3	3.0%	93.0%	37 mph	6	6.0%	93.0%	37 mph	9	4.5%	93.0%									
38 mph	3	3.0%	96.0%	38 mph	2	2.0%	95.0%	38 mph	5	2.5%	95.5%									
39 mph	0	0.0%	96.0%	39 mph	2	2.0%	97.0%	39 mph	2	1.0%	96.5%									
40 mph	2	2.0%	98.0%	40 mph	2	2.0%	99.0%	40 mph	4	2.0%	98.5%									
41 mph	0	0.0%	98.0%	41 mph	1	1.0%	100.0%	41 mph	1	0.5%	99.0%									
42 mph	2	2.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	2	1.0%	100.0%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%									
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	30.7	TOTAL:	100	100.0%		AVERAGE SPEED:	32.7	TOTAL:	200	100.0%		AVERAGE SPEED:	31.7			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	26.0	26.0	28.0	30.0	35.0	36.1	SPEEDS:	28.0	29.0	31.0	33.0	36.0	37.0	SPEEDS:	26.0	27.0	29.0	32.0	36.0	37.0
10 MPH PACE SPEED	25-34	NUMBER IN PACE	79	PERCENT:	79.0%	10 MPH PACE SPEED	28-37	NUMBER IN PACE:	84	PERCENT:	84.0%	10 MPH PACE SPEED	28-37	NUMBER IN PACE:	154	PERCENT:	77.0%			
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	35 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	99	92	49	14	2	0	TOTAL:	100	94	77	21	1	0	TOTAL:	199	186	126	35	3	0
PERCENTAGE:	99.0%	92.0%	49.0%	14.0%	2.0%	0.0%	PERCENTAGE:	100.0%	94.0%	77.0%	21.0%	1.0%	0.0%	PERCENTAGE:	99.5%	93.0%	63.0%	17.5%	1.5%	0.0%



3. Cedar Boulevard (between Bridgepoint Dr. and Willow St.)

This segment of Cedar Boulevard is oriented in a primarily east-west direction between Bridgepoint Drive and Willow Street. It is a relatively short segment that terminates at Bridgepoint Drive and west of Willow Street. It is flat and straight with one lane in each direction separated by a raised median. Street parking is not allowed. It is classified as a collector road in the Newark General Plan. It is located in a residential area, but there is no direct access to residential units.

Speed Data

There are no speed limit signs on the segment, but the street is within a residential area, indicating a 25 mph prima facie speed limit. The measured 85th-percentile speed was recorded as follows:

	Speed <u>Limit</u>	85 th % <u>Speed</u>	Recommended <u>Speed Limit</u>
<u>Cedar Boulevard:</u> Bridgepoint Dr. to Willow St.	25 mph	28.0 mph	25 mph (no change)

Recommendation

Based on the measured speed and existing street characteristics, it is recommended the speed limit be maintained at 25 mph. The roadway's short distance and dead-end at Bridgepoint Drive warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 30 mph, resulting in a 25 mph speed limit.

Improvements

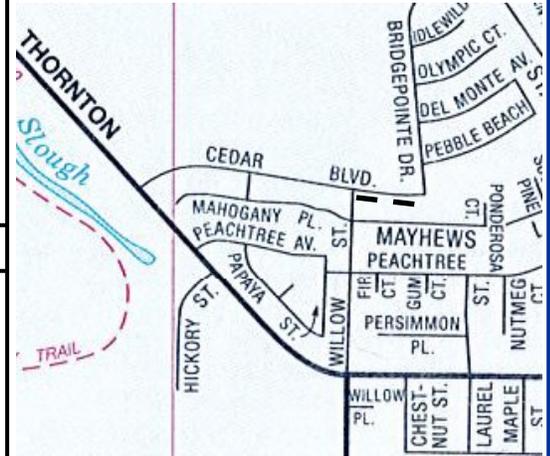
Speed limit signs are not required since the roadway is in a residential district (prima facie speed limit of 25 mph). However, consideration could be given to installing 25 mph speed limit signs.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: CEDAR BOULEVARD
Limits: between Bridgepointe Drive and Willow Street

SPEED DATA

Location of Survey: between Bridgepoint Dr. and Willow St.
Date Taken: 8/17/17
Existing Speed Limit: 25 mph (Not posted; prima facie.)
85th Percentile Speed: 28.0 mph
10-mph Pace Speed: 21-30 mph
% Vehicles in Pace/Above/Below: 85% / 11% / 4%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.00 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.08 mile
Average Daily Traffic: 745 ADT
Street Classification: Collector
No. of lanes: 2 lanes with center median.
Roadway Characteristics: Straight; flat; no parking.
Adjacent Land Use: Residential area, but no direct vehicle access to residential units.
Other Conditions: Short road that terminates just east of Bridgepoint Drive in a dead-end.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include the short distance and dead-end near the Bridgepoint Drive intersection, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 30 mph, resulting in a 25 mph speed limit.

Recommended Speed Limit = 25 mph

Existing Speed Limit = 25 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

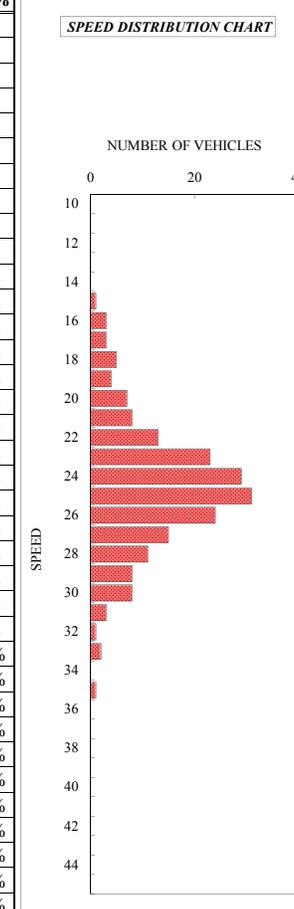
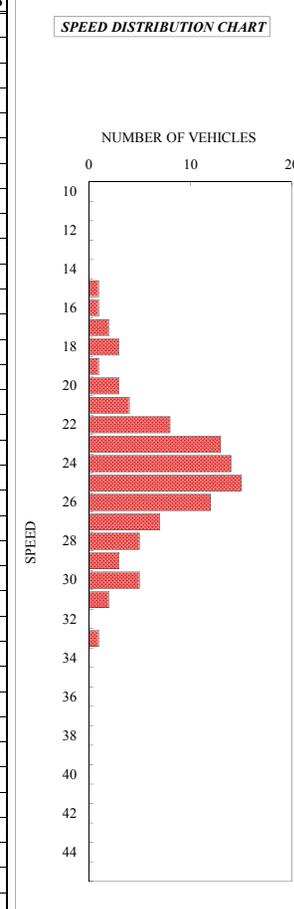
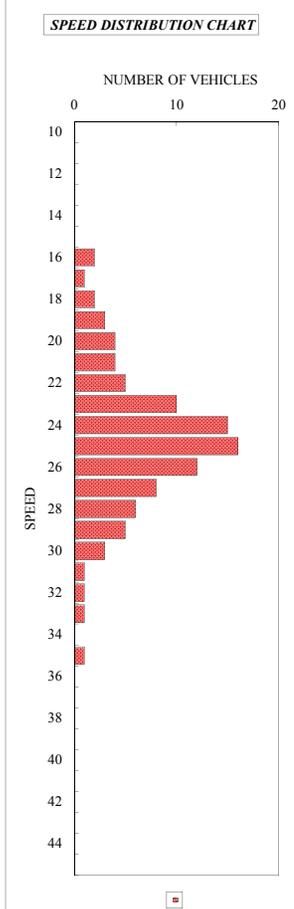
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/17/2017 DAY: THURSDAY TIME: 9:30-10:25AM 4:30-5:25PM

3. CEDAR BOULEVARD BETWEEN BRIDGEPOINTE DRIVE & WILLOW STREET

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
10 mph	0	0.0%	0.0%	10 mph	0	0.0%	0.0%	10 mph	0	0.0%	0.0%									
11 mph	0	0.0%	0.0%	11 mph	0	0.0%	0.0%	11 mph	0	0.0%	0.0%									
12 mph	0	0.0%	0.0%	12 mph	0	0.0%	0.0%	12 mph	0	0.0%	0.0%									
13 mph	0	0.0%	0.0%	13 mph	0	0.0%	0.0%	13 mph	0	0.0%	0.0%									
14 mph	0	0.0%	0.0%	14 mph	0	0.0%	0.0%	14 mph	0	0.0%	0.0%									
15 mph	0	0.0%	0.0%	15 mph	1	1.0%	1.0%	15 mph	1	0.5%	0.5%									
16 mph	2	2.0%	2.0%	16 mph	1	1.0%	2.0%	16 mph	3	1.5%	2.0%									
17 mph	1	1.0%	3.0%	17 mph	2	2.0%	4.0%	17 mph	3	1.5%	3.5%									
18 mph	2	2.0%	5.0%	18 mph	3	3.0%	7.0%	18 mph	5	2.5%	6.0%									
19 mph	3	3.0%	8.0%	19 mph	1	1.0%	8.0%	19 mph	4	2.0%	8.0%									
20 mph	4	4.0%	12.0%	20 mph	3	3.0%	11.0%	20 mph	7	3.5%	11.5%									
21 mph	4	4.0%	16.0%	21 mph	4	4.0%	15.0%	21 mph	8	4.0%	15.5%									
22 mph	5	5.0%	21.0%	22 mph	8	8.0%	23.0%	22 mph	13	6.5%	22.0%									
23 mph	10	10.0%	31.0%	23 mph	13	13.0%	36.0%	23 mph	23	11.5%	33.5%									
24 mph	15	15.0%	46.0%	24 mph	14	14.0%	50.0%	24 mph	29	14.5%	48.0%									
25 mph	16	16.0%	62.0%	25 mph	15	15.0%	65.0%	25 mph	31	15.5%	63.5%									
26 mph	12	12.0%	74.0%	26 mph	12	12.0%	77.0%	26 mph	24	12.0%	75.5%									
27 mph	8	8.0%	82.0%	27 mph	7	7.0%	84.0%	27 mph	15	7.5%	83.0%									
28 mph	6	6.0%	88.0%	28 mph	5	5.0%	89.0%	28 mph	11	5.5%	88.5%									
29 mph	5	5.0%	93.0%	29 mph	3	3.0%	92.0%	29 mph	8	4.0%	92.5%									
30 mph	3	3.0%	96.0%	30 mph	5	5.0%	97.0%	30 mph	8	4.0%	96.5%									
31 mph	1	1.0%	97.0%	31 mph	2	2.0%	99.0%	31 mph	3	1.5%	98.0%									
32 mph	1	1.0%	98.0%	32 mph	0	0.0%	99.0%	32 mph	1	0.5%	98.5%									
33 mph	1	1.0%	99.0%	33 mph	1	1.0%	100.0%	33 mph	2	1.0%	99.5%									
34 mph	0	0.0%	99.0%	34 mph	0	0.0%	100.0%	34 mph	0	0.0%	99.5%									
35 mph	1	1.0%	100.0%	35 mph	0	0.0%	100.0%	35 mph	1	0.5%	100.0%									
36 mph	0	0.0%	100.0%	36 mph	0	0.0%	100.0%	36 mph	0	0.0%	100.0%									
37 mph	0	0.0%	100.0%	37 mph	0	0.0%	100.0%	37 mph	0	0.0%	100.0%									
38 mph	0	0.0%	100.0%	38 mph	0	0.0%	100.0%	38 mph	0	0.0%	100.0%									
39 mph	0	0.0%	100.0%	39 mph	0	0.0%	100.0%	39 mph	0	0.0%	100.0%									
40 mph	0	0.0%	100.0%	40 mph	0	0.0%	100.0%	40 mph	0	0.0%	100.0%									
41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%									
42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%									
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	24.7	TOTAL:	100	100.0%		AVERAGE SPEED:	24.4	TOTAL:	200	100.0%		AVERAGE SPEED:	24.5			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	20.0	21.0	23.0	25.0	28.0	29.0	SPEEDS:	20.0	21.9	23.0	24.5	28.0	29.0	SPEEDS:	20.0	21.0	23.0	25.0	28.0	29.0
10 MPH PACE SPEED	20-29	NUMBER IN PACE	85	PERCENT:	85.0%	10 MPH PACE SPEED	21-30	NUMBER IN PACE	86	PERCENT:	86.0%	10 MPH PACE SPEED	21-30	NUMBER IN PACE	170	PERCENT:	85.0%			
SPEED EXCEEDED:	15 MPH	20 MPH	25MPH	30 MPH	35 MPH	40 MPH	SPEED EXCEEDED:	15 MPH	20 MPH	25MPH	30 MPH	35 MPH	40 MPH	SPEED EXCEEDED:	15 MPH	20 MPH	25MPH	30 MPH	35 MPH	40 MPH
TOTAL:	100	88	38	4	0	0	TOTAL:	99	89	35	3	0	0	TOTAL:	199	177	73	7	0	0
PERCENTAGE:	100.0%	88.0%	38.0%	4.0%	0.0%	0.0%	PERCENTAGE:	99.0%	89.0%	35.0%	3.0%	0.0%	0.0%	PERCENTAGE:	99.5%	88.5%	36.5%	3.5%	0.0%	0.0%



4. Cedar Boulevard (between Haley St. and Lido Blvd.)

This segment of Cedar Boulevard begins at Haley Street and extends northeast to Lido Boulevard. It consists of two through lanes separated by raised center medians and is oriented in a broad S-shaped curve. There are striped shoulder/parking lanes and bicycle lanes on both sides of the street. It is classified as an arterial road in the Newark General Plan. The segment extends through a residential neighborhood with direct driveway access. There is an elementary school located one block to the north and yellow school crosswalks are striped at the Mirabeau Drive intersection.

Speed Data

There is an existing posted speed limit of 30 mph. There are eastbound speed limits sign located east of Haley Street, Rochelle Avenue, and Mirabeau Drive. There is a westbound sign located west of Lido Boulevard. The measured 85th-percentile speed was recorded as follows:

<u>Cedar Boulevard:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Haley St. to Lido Blvd.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	30 mph	37.0 mph	30 mph (no change)

Recommendation

Based on the measured 85th percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 30 mph. The road is in a residential area and the residential unit density also meets the standard for consideration in setting the speed limit (CVC Section 627). Other factors include direct residential access with traffic turning in and backing out of driveways, street parking activity, and proximity of the school with associated pedestrian and bicycle activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 35 mph be implemented, resulting in a 30 mph speed limit.

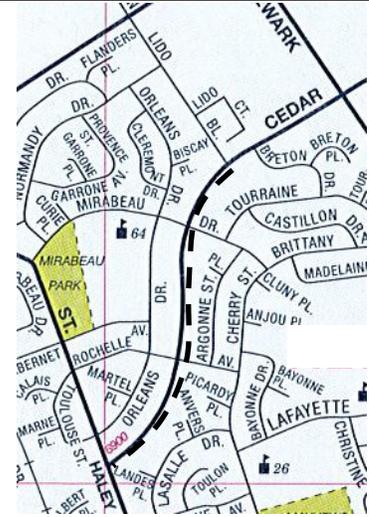
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: CEDAR BOULEVARD
Limits: between Haley Street and Lido Boulevard

SPEED DATA

Location of Survey: between Rochelle Ave. and Mirabeau Dr.
Date Taken: 8/23/17
Existing Speed Limit: 30 mph
85th Percentile Speed: 37.0 mph
10-mph Pace Speed: 27-36 mph
% Vehicles in Pace/Above/Below: 80% / 16% / 4%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 4 ('12 = 1, '13 = 1, '14 = 0, '15 = 1, '16 = 1)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 1.21 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.56 mile
Average Daily Traffic: 3,225 ADT
Street Classification: Arterial
No. of lanes: 2 lanes with center medians.
Roadway Characteristics: Broad S-shaped horizontal curves, striped bicycle/shoulder lanes; parking allowed.
Adjacent Land Use: Residential area with direct driveway access to residential units.
Other Conditions: Nearby school with associated pedestrian and bicycle activity; school crosswalks on the segment.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential area and the residential unit density meets the standard for consideration in setting the speed limit (CVC Section 627), direct driveway access, street parking activity, and nearby school with associated pedestrian activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 35 mph, resulting in a 30 mph speed limit.

Recommended Speed Limit = 30 mph

Existing Speed Limit = 30 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

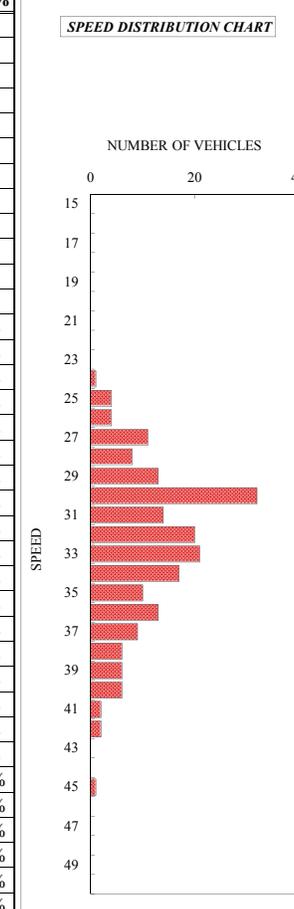
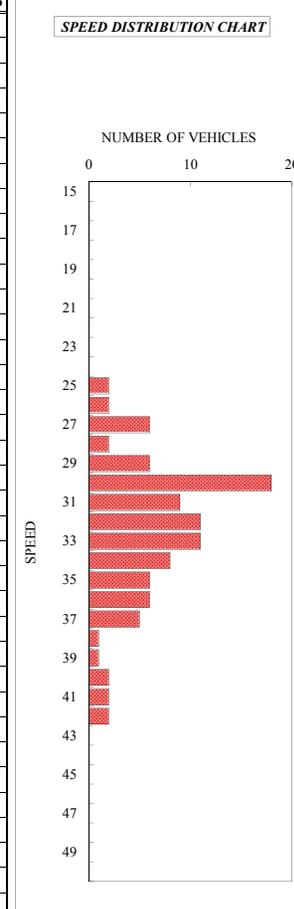
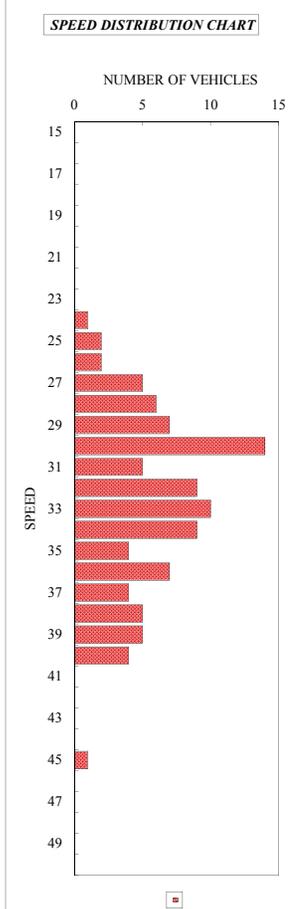
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/24/2017 DAY: THURSDAY TIME: 9:05-10:45AM

4. CEDAR BOULEVARD BETWEEN HALEY STREET & LIDO BOULEVARD

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%									
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	1	1.0%	1.0%	24 mph	0	0.0%	0.0%	24 mph	1	0.5%	0.5%									
25 mph	2	2.0%	3.0%	25 mph	2	2.0%	2.0%	25 mph	4	2.0%	2.5%									
26 mph	2	2.0%	5.0%	26 mph	2	2.0%	4.0%	26 mph	4	2.0%	4.5%									
27 mph	5	5.0%	10.0%	27 mph	6	6.0%	10.0%	27 mph	11	5.5%	10.0%									
28 mph	6	6.0%	16.0%	28 mph	2	2.0%	12.0%	28 mph	8	4.0%	14.0%									
29 mph	7	7.0%	23.0%	29 mph	6	6.0%	18.0%	29 mph	13	6.5%	20.5%									
30 mph	14	14.0%	37.0%	30 mph	18	18.0%	36.0%	30 mph	32	16.0%	36.5%									
31 mph	5	5.0%	42.0%	31 mph	9	9.0%	45.0%	31 mph	14	7.0%	43.5%									
32 mph	9	9.0%	51.0%	32 mph	11	11.0%	56.0%	32 mph	20	10.0%	53.5%									
33 mph	10	10.0%	61.0%	33 mph	11	11.0%	67.0%	33 mph	21	10.5%	64.0%									
34 mph	9	9.0%	70.0%	34 mph	8	8.0%	75.0%	34 mph	17	8.5%	72.5%									
35 mph	4	4.0%	74.0%	35 mph	6	6.0%	81.0%	35 mph	10	5.0%	77.5%									
36 mph	7	7.0%	81.0%	36 mph	6	6.0%	87.0%	36 mph	13	6.5%	84.0%									
37 mph	4	4.0%	85.0%	37 mph	5	5.0%	92.0%	37 mph	9	4.5%	88.5%									
38 mph	5	5.0%	90.0%	38 mph	1	1.0%	93.0%	38 mph	6	3.0%	91.5%									
39 mph	5	5.0%	95.0%	39 mph	1	1.0%	94.0%	39 mph	6	3.0%	94.5%									
40 mph	4	4.0%	99.0%	40 mph	2	2.0%	96.0%	40 mph	6	3.0%	97.5%									
41 mph	0	0.0%	99.0%	41 mph	2	2.0%	98.0%	41 mph	2	1.0%	98.5%									
42 mph	0	0.0%	99.0%	42 mph	2	2.0%	100.0%	42 mph	2	1.0%	99.5%									
43 mph	0	0.0%	99.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	99.5%									
44 mph	0	0.0%	99.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	99.5%									
45 mph	1	1.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	1	0.5%	100.0%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	32.6	TOTAL:	100	100.0%		AVERAGE SPEED:	32.3	TOTAL:	200	100.0%		AVERAGE SPEED:	32.5			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	27.9	28.0	30.0	32.0	38.1	PERCENT:	27.9	29.0	30.0	32.0	36.0	37.0	SPEEDS:	27.9	29.0	30.0	32.0	37.0	38.0	
10 MPH PACE SPEED	27-36	NUMBER IN PACE	76	PERCENT:	76.0%	10 MPH PACE SPEED	27-36	NUMBER IN PACE	83	PERCENT:	83.0%	10 MPH PACE SPEED	27-36	NUMBER IN PACE	159	PERCENT:	79.5%			
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	100	97	63	26	1	0	TOTAL:	100	98	64	19	4	0	TOTAL:	200	195	127	45	5	0
PERCENTAGE:	100.0%	97.0%	63.0%	26.0%	1.0%	0.0%	PERCENTAGE:	100.0%	98.0%	64.0%	19.0%	4.0%	0.0%	PERCENTAGE:	100.0%	97.5%	63.5%	22.5%	2.5%	0.0%



5. Cedar Boulevard (between Lido Blvd. and Central Ave.)

This segment of Cedar Boulevard extends east from Lido Boulevard past Newark Boulevard, then curves south to Central Avenue. It consists of four through lanes separated by raised center medians between Lido Boulevard and Thornton Avenue, then striped medians or centerlines to Central Avenue. Parking is allowed on intermittent sections along the segment. It is classified as an arterial road in the Newark General Plan. The segment extends through a residential neighborhood with direct driveway access. There are schools located north of Thornton Avenue. South of Thornton Avenue, residential neighborhoods are located to the west and a mix of light industrial, commercial, and residential units are located to the east.

Speed Data

There is an existing posted speed limit of 35 mph. There are northbound/westbound speed limit signs located near Central Avenue, St. Mark Avenue, Thornton Avenue, Port Sailwood Drive, Edgewater Drive, Lake Boulevard, and Newark Boulevard. There are southbound/eastbound signs located near Newark Boulevard and Thornton Avenue. There are also advisory "Curve / 30 mph" signs located on a curve south of Edgewater Drive.

The measured 85th-percentile speed was recorded as follows:

	Speed <u>Limit</u>	85 th % <u>Speed</u>	Recommended <u>Speed Limit</u>
<u>Cedar Boulevard:</u> Lido Blvd. to Central Ave.	35 mph	41.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The road extends through a residential area and the residential unit density meets the standard for consideration in setting the speed limit (CVC Section 627). Other factors include direct residential access with traffic turning in and backing out of driveways, street parking activity, and proximity of schools with associated pedestrian and bicycle activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph be implemented, resulting in a 35 mph speed limit.

Improvements

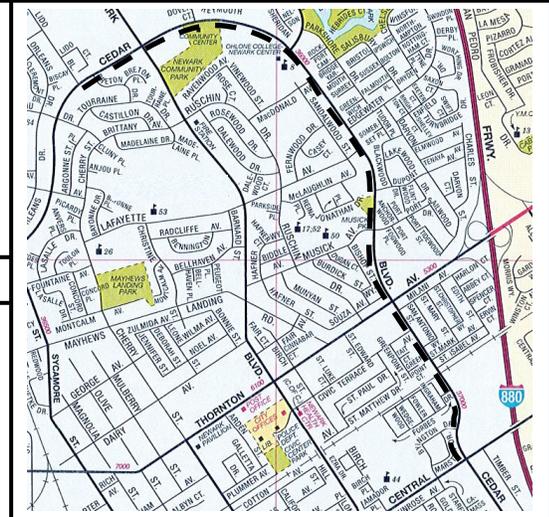
Consideration could be given to installing an additional southbound 35 mph speed limit sign near Lake Boulevard.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: CEDAR BOULEVARD
Limits: between Lido Boulevard and Central Avenue

SPEED DATA

Location of Survey: between Lake Blvd. and Edgewater Dr.
Date Taken: 8/23/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 41.0 mph
10-mph Pace Speed: 30-39 mph
% Vehicles in Pace/Above/Below: 74% / 20% / 6%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 38 ('12 = 9, '13 = 4, '14 = 5, '15 = 9, '16 = 11)
Speed Related Accidents: Total = 10 ('12 = 3, '13 = 2, '14 = 0, '15 = 1, '16 = 4)
Accident Rate (accs. per million vehicle miles): 0.62 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 2.11 mile
Average Daily Traffic: 15,913 ADT
Street Classification: Arterial
No. of lanes: 4 lanes with medians and centerline striping.
Roadway Characteristics: Mix of horizontal curves and straight sections; street parking allowed on some sections.
Adjacent Land Use: Residential area north of Thornton Avenue and mix of residential and light industrial/commercial south of Thornton Avenue.
Other Conditions: Adjacent school north of Thornton Avenue with associated pedestrian and bicycle activity; school crosswalks also on the segment.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential area and the residential unit density meets the standard for consideration in setting the speed limit (CVC Section 627), direct driveway access, street parking activity, and nearby schools with associated pedestrian activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/23/2017 DAY: WEDNESDAY TIME: 8:00-8:50AM

5. CEDAR BOULEVARD BETWEEN LIDO BOULEVARD & CENTRAL AVENUE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%									
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%									
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%									
27 mph	2	2.0%	2.0%	27 mph	3	3.0%	3.0%	27 mph	5	2.5%	2.5%									
28 mph	2	2.0%	4.0%	28 mph	2	2.0%	5.0%	28 mph	4	2.0%	4.5%									
29 mph	0	0.0%	4.0%	29 mph	3	3.0%	8.0%	29 mph	3	1.5%	6.0%									
30 mph	7	7.0%	11.0%	30 mph	6	6.0%	14.0%	30 mph	13	6.5%	12.5%									
31 mph	6	6.0%	17.0%	31 mph	7	7.0%	21.0%	31 mph	13	6.5%	19.0%									
32 mph	10	10.0%	27.0%	32 mph	6	6.0%	27.0%	32 mph	16	8.0%	27.0%									
33 mph	5	5.0%	32.0%	33 mph	4	4.0%	31.0%	33 mph	9	4.5%	31.5%									
34 mph	7	7.0%	39.0%	34 mph	8	8.0%	39.0%	34 mph	15	7.5%	39.0%									
35 mph	11	11.0%	50.0%	35 mph	10	10.0%	49.0%	35 mph	21	10.5%	49.5%									
36 mph	13	13.0%	63.0%	36 mph	10	10.0%	59.0%	36 mph	23	11.5%	61.0%									
37 mph	6	6.0%	69.0%	37 mph	10	10.0%	69.0%	37 mph	16	8.0%	69.0%									
38 mph	3	3.0%	72.0%	38 mph	8	8.0%	77.0%	38 mph	11	5.5%	74.5%									
39 mph	6	6.0%	78.0%	39 mph	5	5.0%	82.0%	39 mph	11	5.5%	80.0%									
40 mph	4	4.0%	82.0%	40 mph	4	4.0%	86.0%	40 mph	8	4.0%	84.0%									
41 mph	3	3.0%	85.0%	41 mph	1	1.0%	87.0%	41 mph	4	2.0%	86.0%									
42 mph	4	4.0%	89.0%	42 mph	5	5.0%	92.0%	42 mph	9	4.5%	90.5%									
43 mph	3	3.0%	92.0%	43 mph	2	2.0%	94.0%	43 mph	5	2.5%	93.0%									
44 mph	2	2.0%	94.0%	44 mph	1	1.0%	95.0%	44 mph	3	1.5%	94.5%									
45 mph	1	1.0%	95.0%	45 mph	0	0.0%	95.0%	45 mph	1	0.5%	95.0%									
46 mph	0	0.0%	95.0%	46 mph	1	1.0%	96.0%	46 mph	1	0.5%	95.5%									
47 mph	2	2.0%	97.0%	47 mph	0	0.0%	96.0%	47 mph	2	1.0%	96.5%									
48 mph	1	1.0%	98.0%	48 mph	1	1.0%	97.0%	48 mph	2	1.0%	97.5%									
49 mph	1	1.0%	99.0%	49 mph	2	2.0%	99.0%	49 mph	3	1.5%	99.0%									
50 mph	0	0.0%	99.0%	50 mph	0	0.0%	99.0%	50 mph	0	0.0%	99.0%									
51 mph	0	0.0%	99.0%	51 mph	0	0.0%	99.0%	51 mph	0	0.0%	99.0%									
52 mph	1	1.0%	100.0%	52 mph	0	0.0%	99.0%	52 mph	1	0.5%	99.5%									
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	99.0%	53 mph	0	0.0%	99.5%									
54 mph	0	0.0%	100.0%	54 mph	1	1.0%	100.0%	54 mph	1	0.5%	100.0%									
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	36.1	TOTAL:	100	100.0%		AVERAGE SPEED:	35.8	TOTAL:	200	100.0%		AVERAGE SPEED:	36.0			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	30.0	31.0	32.0	35.5	41.2	43.0	SPEEDS:	30.0	31.0	32.0	36.0	40.0	42.0	SPEEDS:	30.0	31.0	32.0	36.0	41.0	42.0
10 MPH PACE SPEED	30-39	NUMBER IN PACE	74	PERCENT	74.0%		10 MPH PACE SPEED	30-39	NUMBER IN PACE	74	PERCENT	74.0%		10 MPH PACE SPEED	30-39	NUMBER IN PACE	148	PERCENT	74.0%	
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	100	89	50	18	5	1	TOTAL:	100	86	51	14	5	1	TOTAL:	200	175	101	32	10	2
PERCENTAGE:	100.0%	89.0%	50.0%	18.0%	5.0%	1.0%	PERCENTAGE:	100.0%	86.0%	51.0%	14.0%	5.0%	1.0%	PERCENTAGE:	100.0%	87.5%	50.5%	16.0%	5.0%	1.0%

6. Cedar Boulevard (between Central Ave. and Moores Ave.)

This segment of Cedar Boulevard extends south from Central Avenue to Moores Avenue. The segment is straight and consists of four through lanes separated by raised center medians or striped two-way left turn lanes. Street parking is not allowed on the segment. It is classified as an arterial road in the Newark General Plan. There are residential neighborhoods located to the west and light industrial/commercial businesses on the east side. There is a school located to the west on Smith Avenue and there is a marked school crossing at the Cedar Boulevard/Smith Avenue intersection.

Speed Data

There is an existing posted speed limit of 40 mph. There is a southbound speed limit sign located near Thornton Avenue and a northbound sign located near Moores Avenue.

The measured 85th-percentile speed was recorded as follows:

<u>Cedar Boulevard:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Central Ave. to Moores Ave.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	40 mph	44.0 mph	40 mph (no change)

Recommendation

Based on the measured 85th percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 40 mph. The combination of higher speed through-vehicles and lower speed trucks turning in and out of driveways, and proximity of school with associated pedestrian activity, warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 45 mph, resulting in a 40 mph speed limit.

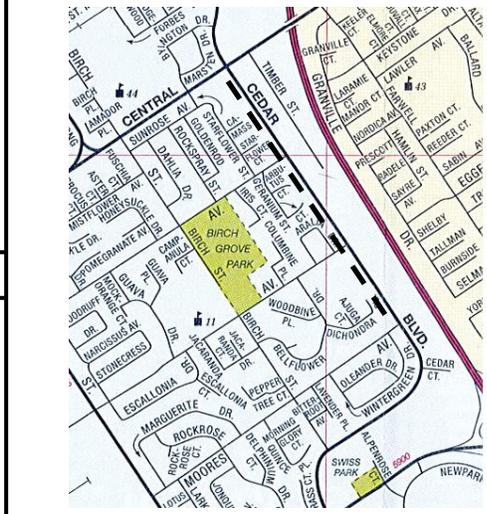
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: CEDAR BOULEVARD
Limits: between Central Avenue and Moores Avenue

SPEED DATA

Location of Survey: between Central Ave. and Robertson Ave.
Date Taken: 8/23/17
Existing Speed Limit: 40 mph
85th Percentile Speed: 44.0 mph
10-mph Pace Speed: 35-44 mph
% Vehicles in Pace/Above/Below: 77% / 14% / 9%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 4 ('12 = 2, '13 = 1, '14 = 0, '15 = 0, '16 = 1)
Speed Related Accidents: Total = 2 ('12 = 0, '13 = 1, '14 = 0, '15 = 0, '16 = 1)
Accident Rate (accs. per million vehicle miles): 0.80 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.70 mile
Average Daily Traffic: 12,702 ADT
Street Classification: Arterial
No. of lanes: 4 lanes with medians and center two-way left turn lanes.
Roadway Characteristics: Straight section; street parking not allowed.
Adjacent Land Use: Residential areas to the west and light industrial/commercial businesses on the east side.
Other Conditions: School located to the west with associated pedestrian and bicycle activity; school crosswalks at Smith Avenue intersection. Trucks turning in and out of driveways along east side.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include higher speed through-vehicles and lower speed trucks turning in and out of driveways, and nearby school with associated pedestrian activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 45 mph, resulting in a 40 mph speed limit.

Recommended Speed Limit = 40 mph

Existing Speed Limit = 40 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

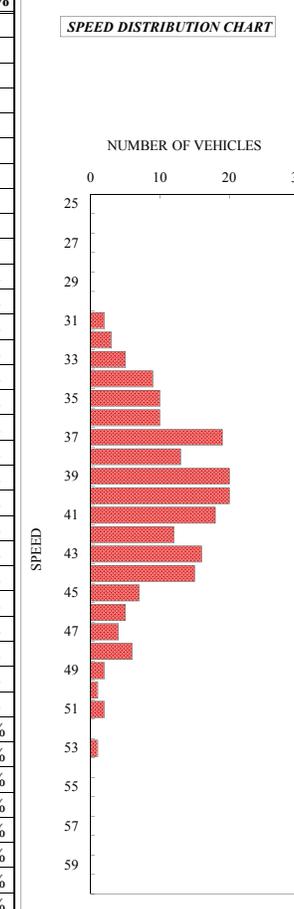
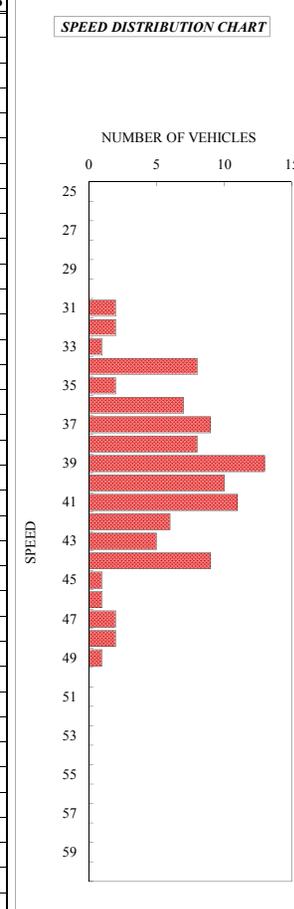
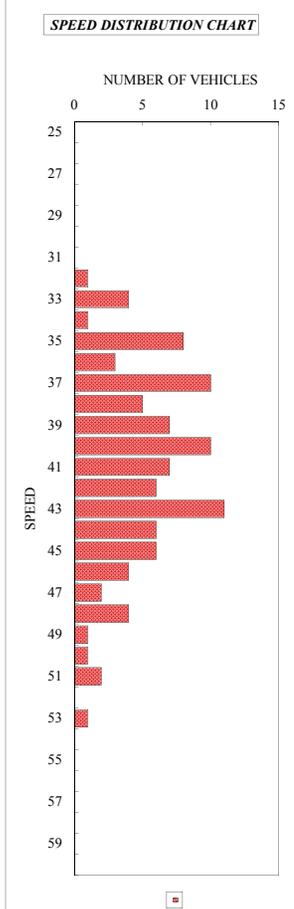
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/23/2017 DAY: WEDNESDAY TIME: 9:00-9:45AM

6. CEDAR BOULEVARD BETWEEN CENTRAL AVENUE & MOORES AVENUE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED														
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %											
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%											
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%											
27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%											
28 mph	0	0.0%	0.0%	28 mph	0	0.0%	0.0%	28 mph	0	0.0%	0.0%											
29 mph	0	0.0%	0.0%	29 mph	0	0.0%	0.0%	29 mph	0	0.0%	0.0%											
30 mph	0	0.0%	0.0%	30 mph	0	0.0%	0.0%	30 mph	0	0.0%	0.0%											
31 mph	0	0.0%	0.0%	31 mph	2	2.0%	2.0%	31 mph	2	1.0%	1.0%											
32 mph	1	1.0%	1.0%	32 mph	2	2.0%	4.0%	32 mph	3	1.5%	2.5%											
33 mph	4	4.0%	5.0%	33 mph	1	1.0%	5.0%	33 mph	5	2.5%	5.0%											
34 mph	1	1.0%	6.0%	34 mph	8	8.0%	13.0%	34 mph	9	4.5%	9.5%											
35 mph	8	8.0%	14.0%	35 mph	2	2.0%	15.0%	35 mph	10	5.0%	14.5%											
36 mph	3	3.0%	17.0%	36 mph	7	7.0%	22.0%	36 mph	10	5.0%	19.5%											
37 mph	10	10.0%	27.0%	37 mph	9	9.0%	31.0%	37 mph	19	9.5%	29.0%											
38 mph	5	5.0%	32.0%	38 mph	8	8.0%	39.0%	38 mph	13	6.5%	35.5%											
39 mph	7	7.0%	39.0%	39 mph	13	13.0%	52.0%	39 mph	20	10.0%	45.5%											
40 mph	10	10.0%	49.0%	40 mph	10	10.0%	62.0%	40 mph	20	10.0%	55.5%											
41 mph	7	7.0%	56.0%	41 mph	11	11.0%	73.0%	41 mph	18	9.0%	64.5%											
42 mph	6	6.0%	62.0%	42 mph	6	6.0%	79.0%	42 mph	12	6.0%	70.5%											
43 mph	11	11.0%	73.0%	43 mph	5	5.0%	84.0%	43 mph	16	8.0%	78.5%											
44 mph	6	6.0%	79.0%	44 mph	9	9.0%	93.0%	44 mph	15	7.5%	86.0%											
45 mph	6	6.0%	85.0%	45 mph	1	1.0%	94.0%	45 mph	7	3.5%	89.5%											
46 mph	4	4.0%	89.0%	46 mph	1	1.0%	95.0%	46 mph	5	2.5%	92.0%											
47 mph	2	2.0%	91.0%	47 mph	2	2.0%	97.0%	47 mph	4	2.0%	94.0%											
48 mph	4	4.0%	95.0%	48 mph	2	2.0%	99.0%	48 mph	6	3.0%	97.0%											
49 mph	1	1.0%	96.0%	49 mph	1	1.0%	100.0%	49 mph	2	1.0%	98.0%											
50 mph	1	1.0%	97.0%	50 mph	0	0.0%	100.0%	50 mph	1	0.5%	98.5%											
51 mph	2	2.0%	99.0%	51 mph	0	0.0%	100.0%	51 mph	2	1.0%	99.5%											
52 mph	0	0.0%	99.0%	52 mph	0	0.0%	100.0%	52 mph	0	0.0%	99.5%											
53 mph	1	1.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	1	0.5%	100.0%											
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%											
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%											
56 mph	0	0.0%	100.0%	56 mph	0	0.0%	100.0%	56 mph	0	0.0%	100.0%											
57 mph	0	0.0%	100.0%	57 mph	0	0.0%	100.0%	57 mph	0	0.0%	100.0%											
58 mph	0	0.0%	100.0%	58 mph	0	0.0%	100.0%	58 mph	0	0.0%	100.0%											
59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%											
60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%											
TOTAL:	100	100.0%		AVERAGE SPEED:	40.9			TOTAL:	100	100.0%		AVERAGE SPEED:	39.4			TOTAL:	200	100.0%		AVERAGE SPEED:	40.2	
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	35.0	36.0	37.0	41.0	45.2	47.0		SPEEDS:	34.0	35.9	37.0	39.0	44.0	44.0		SPEEDS:	35.0	36.0	37.0	40.0	44.0	46.0
10 MPH PACE SPEED	35-44	NUMBER IN PACE		73	PERCENT:	73.0%		10 MPH PACE SPEED	35-44	NUMBER IN PACE		80	PERCENT:	80.0%		10 MPH PACE SPEED	35-44	NUMBER IN PACE		153	PERCENT:	76.5%
SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH		SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH		SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH
TOTAL:	100	86	51	15	3	0		TOTAL:	100	85	38	6	0	0		TOTAL:	200	171	89	21	3	0
PERCENTAGE:	100.0%	86.0%	51.0%	15.0%	3.0%	0.0%		PERCENTAGE:	100.0%	85.0%	38.0%	6.0%	0.0%	0.0%		PERCENTAGE:	100.0%	85.5%	44.5%	10.5%	1.5%	0.0%



7. Cedar Boulevard (between Moores Ave. and Stevenson Blvd.)

This segment of Cedar Boulevard extends south from Moores Avenue then curves west to Birch Street then curves south again to Stevenson Boulevard. It consists of four through lanes separated by raised center medians. There are striped bicycle lanes on both sides of the street. Parking is allowed south of Balentine Drive. It is classified as an arterial road in the Newark General Plan. There are residential neighborhoods to the west and commercial/retail businesses to the east, including the NewPark Mall. There is also a high school located on the west side near Balentine Drive with yellow school crosswalks at nearby intersections.

Speed Data

There is an existing posted speed limit of 35 mph. There are southbound speed limits signs located near Moores Avenue, Mowry Avenue, and Joaquin Murrieta Avenue. There are northbound signs located near Stevenson Boulevard, Joaquin Murieta Avenue, and Mowry Avenue. There are also advisory "Curve / 30 mph" signs located on two curved sections north of Mowry Avenue.

The measured 85th-percentile speed was recorded as follows:

	Speed <u>Limit</u>	85 th % <u>Speed</u>	Recommended <u>Speed Limit</u>
<u>Cedar Boulevard:</u> Central Ave. to Stevenson Blvd.	35 mph	40.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The combination of higher speed through vehicles and lower speed vehicles turning in and out of driveways, as well as nearby residential areas and school with associated pedestrian activity, warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

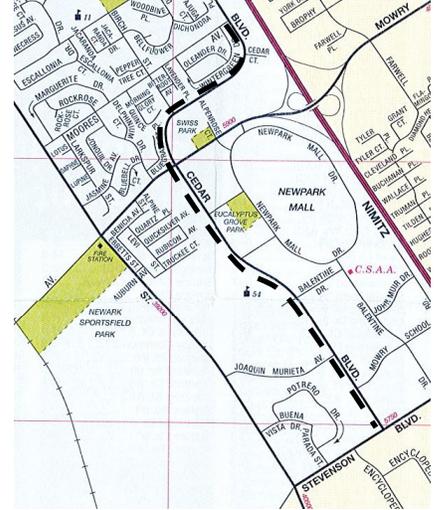
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: CEDAR BOULEVARD
Limits: between Moores Avenue and Stevenson Boulevard

SPEED DATA

Location of Survey: between Mowry Ave. and S. Magazine St.
Date Taken: 8/15/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 40.0 mph
10-mph Pace Speed: 31-40 mph
% Vehicles in Pace/Above/Below: 80% / 13% / 7%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 21 ('12 = 2, '13 = 4, '14 = 6, '15 = 5, '16 = 4)
Speed Related Accidents: Total = 6 ('12 = 1, '13 = 1, '14 = 1, '15 = 2, '16 = 1)
Accident Rate (accs. per million vehicle miles): 0.75 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 1.58 mile
Average Daily Traffic: 9,762 ADT
Street Classification: Arterial
No. of lanes: 4 lanes with center medians.
Roadway Characteristics: Mix of horizontal curves and straight sections; striped bicycle lanes; street parking allowed south of Balentine Drive.
Adjacent Land Use: Residential areas to the west and commercial/retail businesses on the east side.
Other Conditions: School located on the west side with associated pedestrian and bicycle activity; school crosswalks at nearby intersections.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include higher speed through-vehicles and lower speed vehicles turning in and out of commercial driveways, and nearby school with associated pedestrian activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

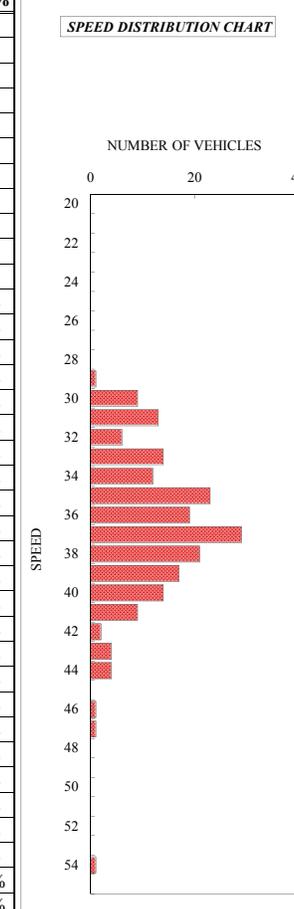
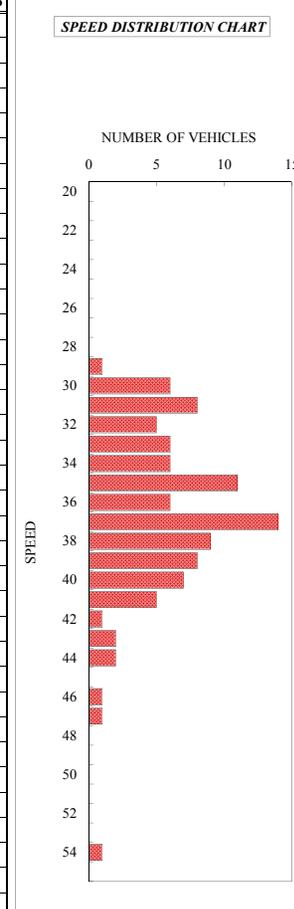
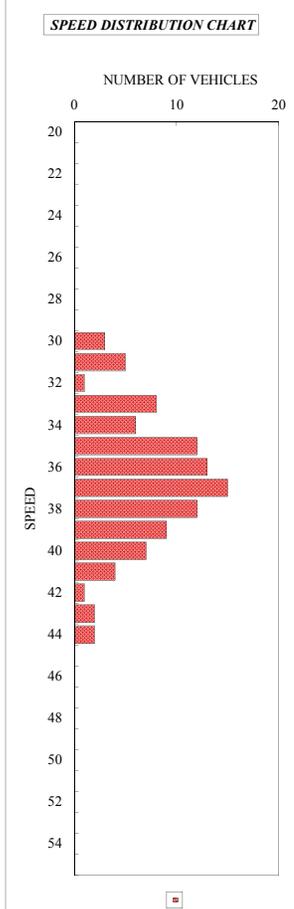
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/15/2017 DAY: TUESDAY TIME: 10:20-12:30PM

7. CEDAR BOULEVARD BETWEEN MOORES AVENUE & STEVENSON BOULEVARD

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%									
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%									
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%									
27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%									
28 mph	0	0.0%	0.0%	28 mph	0	0.0%	0.0%	28 mph	0	0.0%	0.0%									
29 mph	0	0.0%	0.0%	29 mph	1	1.0%	1.0%	29 mph	1	0.5%	0.5%									
30 mph	3	3.0%	3.0%	30 mph	6	6.0%	7.0%	30 mph	9	4.5%	5.0%									
31 mph	5	5.0%	8.0%	31 mph	8	8.0%	15.0%	31 mph	13	6.5%	11.5%									
32 mph	1	1.0%	9.0%	32 mph	5	5.0%	20.0%	32 mph	6	3.0%	14.5%									
33 mph	8	8.0%	17.0%	33 mph	6	6.0%	26.0%	33 mph	14	7.0%	21.5%									
34 mph	6	6.0%	23.0%	34 mph	6	6.0%	32.0%	34 mph	12	6.0%	27.5%									
35 mph	12	12.0%	35.0%	35 mph	11	11.0%	43.0%	35 mph	23	11.5%	39.0%									
36 mph	13	13.0%	48.0%	36 mph	6	6.0%	49.0%	36 mph	19	9.5%	48.5%									
37 mph	15	15.0%	63.0%	37 mph	14	14.0%	63.0%	37 mph	29	14.5%	63.0%									
38 mph	12	12.0%	75.0%	38 mph	9	9.0%	72.0%	38 mph	21	10.5%	73.5%									
39 mph	9	9.0%	84.0%	39 mph	8	8.0%	80.0%	39 mph	17	8.5%	82.0%									
40 mph	7	7.0%	91.0%	40 mph	7	7.0%	87.0%	40 mph	14	7.0%	89.0%									
41 mph	4	4.0%	95.0%	41 mph	5	5.0%	92.0%	41 mph	9	4.5%	93.5%									
42 mph	1	1.0%	96.0%	42 mph	1	1.0%	93.0%	42 mph	2	1.0%	94.5%									
43 mph	2	2.0%	98.0%	43 mph	2	2.0%	95.0%	43 mph	4	2.0%	96.5%									
44 mph	2	2.0%	100.0%	44 mph	2	2.0%	97.0%	44 mph	4	2.0%	98.5%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	97.0%	45 mph	0	0.0%	98.5%									
46 mph	0	0.0%	100.0%	46 mph	1	1.0%	98.0%	46 mph	1	0.5%	99.0%									
47 mph	0	0.0%	100.0%	47 mph	1	1.0%	99.0%	47 mph	1	0.5%	99.5%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	99.0%	48 mph	0	0.0%	99.5%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	99.0%	49 mph	0	0.0%	99.5%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	99.0%	50 mph	0	0.0%	99.5%									
51 mph	0	0.0%	100.0%	51 mph	0	0.0%	99.0%	51 mph	0	0.0%	99.5%									
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	99.0%	52 mph	0	0.0%	99.5%									
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	99.0%	53 mph	0	0.0%	99.5%									
54 mph	0	0.0%	100.0%	54 mph	1	1.0%	100.0%	54 mph	1	0.5%	100.0%									
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	36.6	TOTAL:	100	100.0%		AVERAGE SPEED:	36.4	TOTAL:	200	100.0%		AVERAGE SPEED:	36.5			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	33.0	33.0	35.0	37.0	40.0	40.0	SPEEDS:	31.0	31.9	33.0	37.0	40.0	41.0	SPEEDS:	31.0	33.0	34.0	37.0	40.0	41.0
10 MPH PACE SPEED	31-40	NUMBER IN PACE	88	PERCENT:	88.0%	10 MPH PACE SPEED	31-40	NUMBER IN PACE	80	PERCENT:	80.0%	10 MPH PACE SPEED	31-40	NUMBER IN PACE:	168	PERCENT:	84.0%			
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	100	97	65	9	0	0	TOTAL:	100	93	57	13	3	1	TOTAL:	200	190	122	22	3	1
PERCENTAGE:	100.0%	97.0%	65.0%	9.0%	0.0%	0.0%	PERCENTAGE:	100.0%	93.0%	57.0%	13.0%	3.0%	1.0%	PERCENTAGE:	100.0%	95.0%	61.0%	11.0%	1.5%	0.5%



8. Central Avenue (between I-880 and Cherry St.)

This segment of Central Avenue extends in a primarily east-west direction between I-880 and Cherry Street. It is straight from I-880 to Birch Street, then curves into an intersection with Newark Boulevard where it continues west again to Cherry Street. It consists of four lanes separated by raised center medians. There are striped bicycle lanes along most of the segment. Street parking is allowed west of Newark Boulevard. It is classified as an arterial road in the Newark General Plan. The segment is bordered by commercial businesses between I-880 and Cedar Boulevard, then residential units to Cherry Street with direct driveway access. There is a school located on the north side near Newark Boulevard with yellow school crosswalks at nearby intersections. The road carries through trips as well as local residential trips.

Speed Data

There is an existing speed limit of 35 mph. There is a westbound speed limit sign located west of I-880. There is an eastbound speed limit sign west of Birch Street. The measured 85th-percentile speed was recorded as follows:

<u>Central Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>I-880 to Cherry St.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	35 mph	42.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The road is in a residential area and the residential unit density meets the standard for consideration in setting the speed limit (CVC Section 627). Additional factors include residences with traffic turning in and backing out of driveways, street parking activity, and nearby school with associated pedestrian and bicycle activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph be implemented, resulting in a 35 mph speed limit.

Improvements

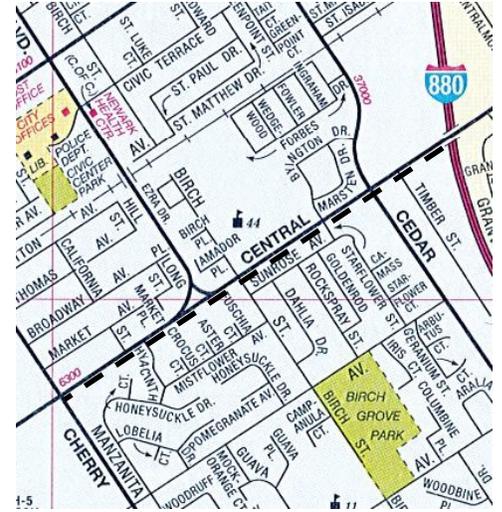
Although there is an eastbound 35 mph speed limit sign located near Birch Street, the speed limit transitions on Central Avenue from 40 mph west of Cherry Street to 35 mph east of Cherry Street. Therefore, it is recommended that an eastbound 35 mph speed limit sign be installed east of Cherry Street in order to alert motorists of the speed limit change.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: CENTRAL AVENUE
Limits: between I-880 and Cherry Street

SPEED DATA

Location of Survey: between Cedar Blvd. and Birch St.
Date Taken: 8/17/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 42.0 mph
10-mph Pace Speed: 32-41 mph
% Vehicles in Pace/Above/Below: 78% / 16% / 6%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 7 ('12 = 1, '13 = 2, '14 = 1, '15 = 2, '16 = 1)
Speed Related Accidents: Total = 5 ('12 = 1, '13 = 2, '14 = 0, '15 = 1, '16 = 1)
Accident Rate (accs. per million vehicle miles): 0.39 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.85 mile
Average Daily Traffic: 11,655 ADT
Street Classification: Arterial
No. of lanes: 4 lanes with center medians.
Roadway Characteristics: Mostly straight, with curved section near Newark Boulevard; striped bicycle lanes; street parking allowed west of Newark Boulevard.
Adjacent Land Use: Commercial businesses I-880 to Cedar Boulevard, and residential units Cedar Boulevard to Cherry Street.
Other Conditions: School located on the north side with associated pedestrian and bicycle activity; school crosswalks at nearby intersections.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential area and the residential unit density meets the standard for consideration in setting the speed limit (CVC Section 627), traffic turning in and backing out of driveways, and nearby school with associated pedestrian activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

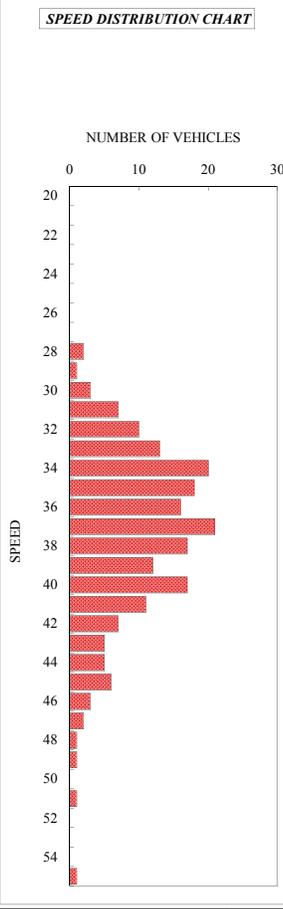
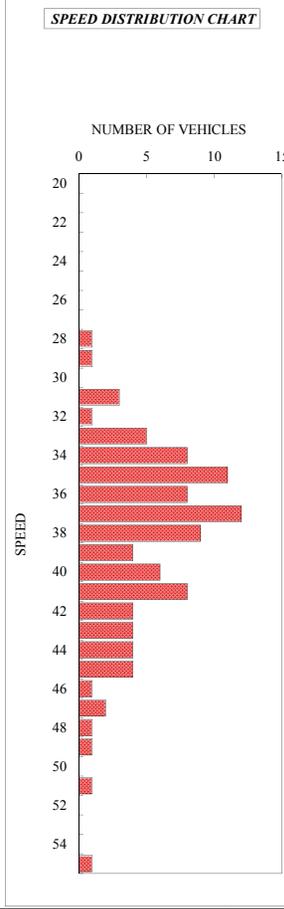
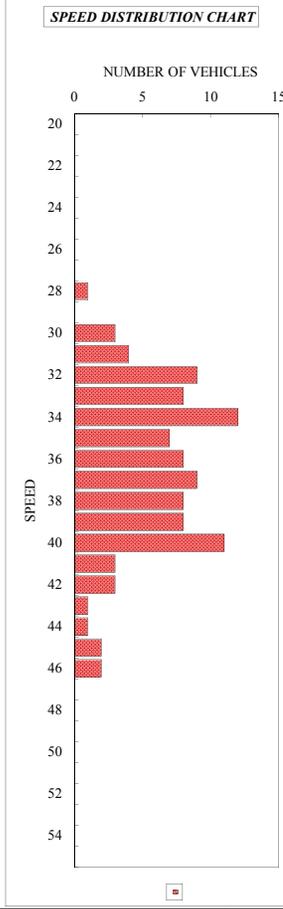
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/17/2017 DAY: THURSDAY TIME: 9:00-9:55AM

8. CENTRAL AVENUE BETWEEN I-880 FREEWAY & CHERRY STREET

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%									
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%									
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%									
27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%									
28 mph	1	1.0%	1.0%	28 mph	1	1.0%	1.0%	28 mph	2	1.0%	1.0%									
29 mph	0	0.0%	1.0%	29 mph	1	1.0%	2.0%	29 mph	1	0.5%	1.5%									
30 mph	3	3.0%	4.0%	30 mph	0	0.0%	2.0%	30 mph	3	1.5%	3.0%									
31 mph	4	4.0%	8.0%	31 mph	3	3.0%	5.0%	31 mph	7	3.5%	6.5%									
32 mph	9	9.0%	17.0%	32 mph	1	1.0%	6.0%	32 mph	10	5.0%	11.5%									
33 mph	8	8.0%	25.0%	33 mph	5	5.0%	11.0%	33 mph	13	6.5%	18.0%									
34 mph	12	12.0%	37.0%	34 mph	8	8.0%	19.0%	34 mph	20	10.0%	28.0%									
35 mph	7	7.0%	44.0%	35 mph	11	11.0%	30.0%	35 mph	18	9.0%	37.0%									
36 mph	8	8.0%	52.0%	36 mph	8	8.0%	38.0%	36 mph	16	8.0%	45.0%									
37 mph	9	9.0%	61.0%	37 mph	12	12.0%	50.0%	37 mph	21	10.5%	55.5%									
38 mph	8	8.0%	69.0%	38 mph	9	9.0%	59.0%	38 mph	17	8.5%	64.0%									
39 mph	8	8.0%	77.0%	39 mph	4	4.0%	63.0%	39 mph	12	6.0%	70.0%									
40 mph	11	11.0%	88.0%	40 mph	6	6.0%	69.0%	40 mph	17	8.5%	78.5%									
41 mph	3	3.0%	91.0%	41 mph	8	8.0%	77.0%	41 mph	11	5.5%	84.0%									
42 mph	3	3.0%	94.0%	42 mph	4	4.0%	81.0%	42 mph	7	3.5%	87.5%									
43 mph	1	1.0%	95.0%	43 mph	4	4.0%	85.0%	43 mph	5	2.5%	90.0%									
44 mph	1	1.0%	96.0%	44 mph	4	4.0%	89.0%	44 mph	5	2.5%	92.5%									
45 mph	2	2.0%	98.0%	45 mph	4	4.0%	93.0%	45 mph	6	3.0%	95.5%									
46 mph	2	2.0%	100.0%	46 mph	1	1.0%	94.0%	46 mph	3	1.5%	97.0%									
47 mph	0	0.0%	100.0%	47 mph	2	2.0%	96.0%	47 mph	2	1.0%	98.0%									
48 mph	0	0.0%	100.0%	48 mph	1	1.0%	97.0%	48 mph	1	0.5%	98.5%									
49 mph	0	0.0%	100.0%	49 mph	1	1.0%	98.0%	49 mph	1	0.5%	99.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	98.0%	50 mph	0	0.0%	99.0%									
51 mph	0	0.0%	100.0%	51 mph	1	1.0%	99.0%	51 mph	1	0.5%	99.5%									
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	99.0%	52 mph	0	0.0%	99.5%									
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	99.0%	53 mph	0	0.0%	99.5%									
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	99.0%	54 mph	0	0.0%	99.5%									
55 mph	0	0.0%	100.0%	55 mph	1	1.0%	100.0%	55 mph	1	0.5%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	36.4	TOTAL:	100	100.0%		AVERAGE SPEED:	38.4	TOTAL:	200	100.0%		AVERAGE SPEED:	37.4			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	32.0	32.0	33.8	36.0	40.0	41.0	SPEEDS:	33.0	34.0	35.0	37.5	43.2	45.0	SPEEDS:	32.0	33.0	34.0	37.0	42.0	43.1
10 MPH PACE SPEED	31-40	NUMBER IN PACE	84	PERCENT:	84.0%		10 MPH PACE SPEED	33-42	NUMBER IN PACE:	75	PERCENT:	75.0%		10 MPH PACE SPEED:	32-41	NUMBER IN PACE:	155	PERCENT:	77.5%	
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	100	96	56	12	2	0	TOTAL:	100	98	70	31	7	2	TOTAL:	200	194	126	43	9	2
PERCENTAGE:	100.0%	96.0%	56.0%	12.0%	2.0%	0.0%	PERCENTAGE:	100.0%	98.0%	70.0%	31.0%	7.0%	2.0%	PERCENTAGE:	100.0%	97.0%	63.0%	21.5%	4.5%	1.0%



9. Central Avenue (between Cherry St. and Willow St.)

This segment of Central Avenue extends in a primarily east-west direction between Cherry Street and Willow Street. It is straight from Cherry Street to Sycamore Street, then broadly curves to Filbert Street where it continues to Willow Street. It consists of four lanes separated by a two way left turn lane between Cherry Street and Filbert Street, then narrows to two lanes separated by raised center medians between Filbert Street and Willow Street. There are striped bicycle lanes west of Filbert Street. Street parking is allowed near Cherry Street. It is classified as an arterial road in the Newark General Plan. The segment is bordered by commercial/light industrial businesses with driveways providing access to parking lots.

Speed Data

There is an existing speed limit of 40 mph. There are westbound speed limit signs located west of Cherry Street and Filbert Street. There are eastbound speed limits east of Willow Street and Filbert Street. The measured 85th-percentile speed was recorded as follows:

<u>Central Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Cherry St. to Willow St.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	40 mph	44.0 mph	40 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 40 mph. The combination of higher speed through vehicles and lower speed trucks in combination with traffic turning in and out of driveways, warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 45 mph, resulting in a 40 mph speed limit.

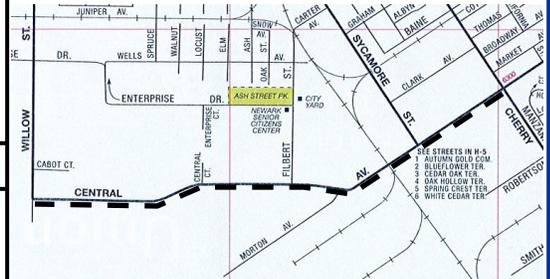
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **CENTRAL AVENUE**
Limits: **between Cherry Street and Willow Street**

SPEED DATA

Location of Survey: between Sycamore St. and Filbert St.
Date Taken: 8/17/17
Existing Speed Limit: 40 mph
85th Percentile Speed: 44.0 mph
10-mph Pace Speed: 35-44 mph
% Vehicles in Pace/Above/Below: 80% / 12% / 8%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 19 ('12 = 4, '13 = 4, '14 = 1, '15 = 10, '16 = 0)
Speed Related Accidents: Total = 7 ('12 = 1, '13 = 3, '14 = 0, '15 = 3, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.45 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 1.50 mile
Average Daily Traffic: 15,457 ADT
Street Classification: Arterial
No. of lanes: 4 lanes with center two-way left turn lanes east of Filbert Street, 2 lanes with center medians west of Filbert Street.
Roadway Characteristics: Mostly straight, with horizontal curves between Sycamore Street and Filbert Street and near Central Court; striped bicycle lanes west of Filbert Street; street parking allowed near Cherry Street.
Adjacent Land Use: Commercial/light industrial businesses with driveways serving parking lots.
Other Conditions: Combination of higher speed through-vehicles and lower speed vehicles turning in and out of driveways.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include higher speed through-vehicles and lower speed trucks, with traffic turning in and out of driveways, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 45 mph, resulting in a 40 mph speed limit.

Recommended Speed Limit = 40 mph

Existing Speed Limit = 40 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

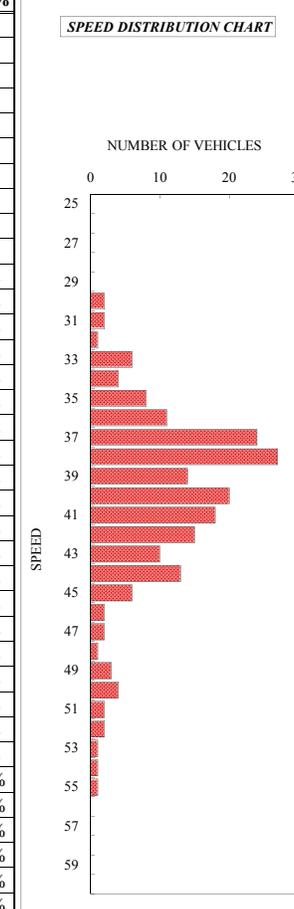
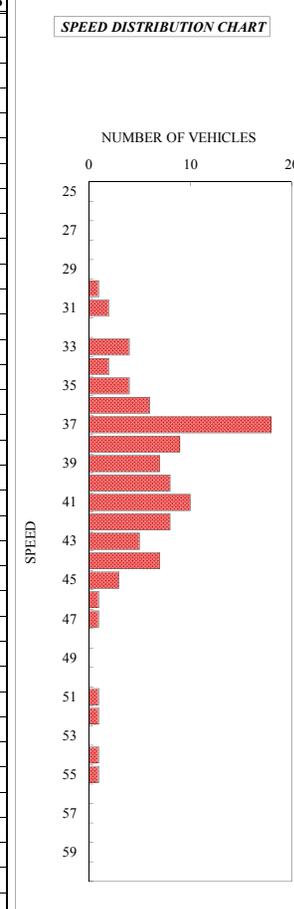
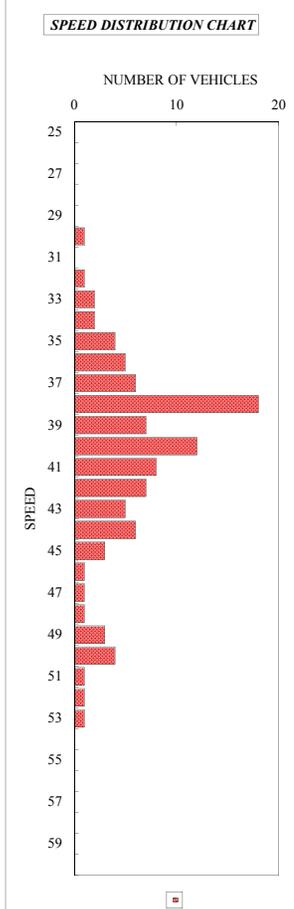
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/17/2017 DAY: THURSDAY TIME: 10:00-11:15AM

9. CENTRAL AVENUE BETWEEN CHERRY STREET & WILLOW STREET

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED														
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %											
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%											
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%											
27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%											
28 mph	0	0.0%	0.0%	28 mph	0	0.0%	0.0%	28 mph	0	0.0%	0.0%											
29 mph	0	0.0%	0.0%	29 mph	0	0.0%	0.0%	29 mph	0	0.0%	0.0%											
30 mph	1	1.0%	1.0%	30 mph	1	1.0%	1.0%	30 mph	2	1.0%	1.0%											
31 mph	0	0.0%	1.0%	31 mph	2	2.0%	3.0%	31 mph	2	1.0%	2.0%											
32 mph	1	1.0%	2.0%	32 mph	0	0.0%	3.0%	32 mph	1	0.5%	2.5%											
33 mph	2	2.0%	4.0%	33 mph	4	4.0%	7.0%	33 mph	6	3.0%	5.5%											
34 mph	2	2.0%	6.0%	34 mph	2	2.0%	9.0%	34 mph	4	2.0%	7.5%											
35 mph	4	4.0%	10.0%	35 mph	4	4.0%	13.0%	35 mph	8	4.0%	11.5%											
36 mph	5	5.0%	15.0%	36 mph	6	6.0%	19.0%	36 mph	11	5.5%	17.0%											
37 mph	6	6.0%	21.0%	37 mph	18	18.0%	37.0%	37 mph	24	12.0%	29.0%											
38 mph	18	18.0%	39.0%	38 mph	9	9.0%	46.0%	38 mph	27	13.5%	42.5%											
39 mph	7	7.0%	46.0%	39 mph	7	7.0%	53.0%	39 mph	14	7.0%	49.5%											
40 mph	12	12.0%	58.0%	40 mph	8	8.0%	61.0%	40 mph	20	10.0%	59.5%											
41 mph	8	8.0%	66.0%	41 mph	10	10.0%	71.0%	41 mph	18	9.0%	68.5%											
42 mph	7	7.0%	73.0%	42 mph	8	8.0%	79.0%	42 mph	15	7.5%	76.0%											
43 mph	5	5.0%	78.0%	43 mph	5	5.0%	84.0%	43 mph	10	5.0%	81.0%											
44 mph	6	6.0%	84.0%	44 mph	7	7.0%	91.0%	44 mph	13	6.5%	87.5%											
45 mph	3	3.0%	87.0%	45 mph	3	3.0%	94.0%	45 mph	6	3.0%	90.5%											
46 mph	1	1.0%	88.0%	46 mph	1	1.0%	95.0%	46 mph	2	1.0%	91.5%											
47 mph	1	1.0%	89.0%	47 mph	1	1.0%	96.0%	47 mph	2	1.0%	92.5%											
48 mph	1	1.0%	90.0%	48 mph	0	0.0%	96.0%	48 mph	1	0.5%	93.0%											
49 mph	3	3.0%	93.0%	49 mph	0	0.0%	96.0%	49 mph	3	1.5%	94.5%											
50 mph	4	4.0%	97.0%	50 mph	0	0.0%	96.0%	50 mph	4	2.0%	96.5%											
51 mph	1	1.0%	98.0%	51 mph	1	1.0%	97.0%	51 mph	2	1.0%	97.5%											
52 mph	1	1.0%	99.0%	52 mph	1	1.0%	98.0%	52 mph	2	1.0%	98.5%											
53 mph	1	1.0%	100.0%	53 mph	0	0.0%	98.0%	53 mph	1	0.5%	99.0%											
54 mph	0	0.0%	100.0%	54 mph	1	1.0%	99.0%	54 mph	1	0.5%	99.5%											
55 mph	0	0.0%	100.0%	55 mph	1	1.0%	100.0%	55 mph	1	0.5%	100.0%											
56 mph	0	0.0%	100.0%	56 mph	0	0.0%	100.0%	56 mph	0	0.0%	100.0%											
57 mph	0	0.0%	100.0%	57 mph	0	0.0%	100.0%	57 mph	0	0.0%	100.0%											
58 mph	0	0.0%	100.0%	58 mph	0	0.0%	100.0%	58 mph	0	0.0%	100.0%											
59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%											
60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%											
TOTAL:	100	100.0%		AVERAGE SPEED:	40.6			TOTAL:	100	100.0%		AVERAGE SPEED:	39.6			TOTAL:	200	100.0%		AVERAGE SPEED:	40.1	
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	35.9	36.9	38.0	40.0	45.0	48.1		SPEEDS:	35.0	36.0	37.0	39.0	44.0	44.0		SPEEDS:	35.0	36.0	37.0	40.0	44.0	45.0
10 MPH PACE SPEED	35-44	NUMBER IN PACE	78	PERCENT:	78.0%			10 MPH PACE SPEED	35-44	NUMBER IN PACE	82	PERCENT:	82.0%		10 MPH PACE SPEED	35-44	NUMBER IN PACE	160	PERCENT:	80.0%		
SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH		SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH		SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH
TOTAL:	99	90	42	13	3	0		TOTAL:	99	87	39	6	4	0		TOTAL:	198	177	81	19	7	0
PERCENTAGE:	99.0%	90.0%	42.0%	13.0%	3.0%	0.0%		PERCENTAGE:	99.0%	87.0%	39.0%	6.0%	4.0%	0.0%		PERCENTAGE:	99.0%	88.5%	40.5%	9.5%	3.5%	0.0%



10. Cherry Street (between Mirabeau Dr. and Thornton Ave.)

This segment of Cherry Street extends in a primarily north-south direction between Mirabeau Drive and Thornton Avenue. It is a two lane road in a residential neighborhood. The segment consists of a series of straight and curved sections. Street parking is allowed. There are speed humps located on the segment. It is classified as a collector road north of Mayhews Landing Road and an arterial road south of Mayhews Landing Road in the Newark General Plan. The road serves adjacent houses with direct driveway access. There is also an elementary school, junior high school, and community park on the east side of the segment.

Speed Data

There is an existing speed limit of 25 mph. There are northbound speed limit signs located near Thornton Avenue and Fountaine Avenue. There are southbound speed limit signs located near Newark Boulevard (north of Mirabeau Drive) and near Fountaine Avenue.

The measured 85th-percentile speed was recorded as follows:

<u>Cherry Street:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Mirabeau Dr. to Thornton Ave.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	25 mph	30.0 mph	25 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 25 mph. The road is in a residential district (CVC Section 22352: prima facie speed limit of 25 mph). The residential unit density also meets the standard for consideration in setting the speed limit (CVC Section 627). Along with additional factors including traffic turning in and backing out of residential driveways, implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 30 mph is warranted, resulting in a 25 mph speed limit.

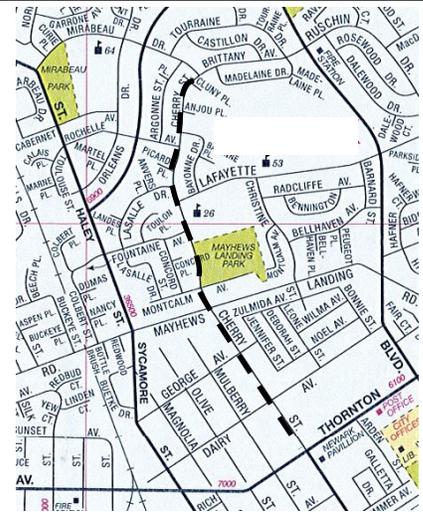
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **CHERRY STREET**
Limits: **between Mirabeau Drive and Thornton Avenue**

SPEED DATA

Location of Survey: between Fontaine Ave. and Mayhews Landing Rd.
Date Taken: 8/24/17
Existing Speed Limit: 25 mph
85th Percentile Speed: 30.0 mph
10-mph Pace Speed: 24-33 mph
% Vehicles in Pace/Above/Below: 92% / 3% / 5%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 4 ('12 = 1, '13 = 1, '14 = 1, '15 = 0, '16 = 1)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.39 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 1.00 mile
Average Daily Traffic: 5,561 ADT
Street Classification: Collector north of Mayhews Landing Road; Arterial south of Mayhews Landing Road.
No. of lanes: 2 lanes with center line striping.
Roadway Characteristics: Mix of horizontal curves and straight sections; speed humps at intervals along the segment; parking is allowed.
Adjacent Land Use: Residential with direct driveway access.
Other Conditions: Nearby schools and park with associated pedestrian and bicycle activity.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential district (CVC Section 22353: prima facie speed limit of 25 mph) and residential unit density meets the standard for consideration in setting the speed limit; residential driveways with traffic turning in and backing out; and nearby schools, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 30 mph, resulting in a 25 mph speed limit.

Recommended Speed Limit = 25 mph

Existing Speed Limit = 25 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

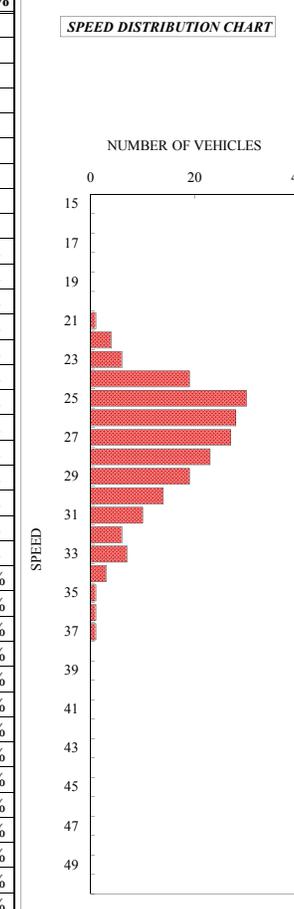
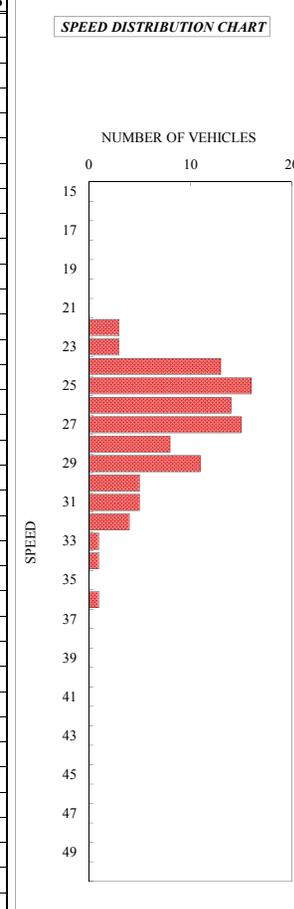
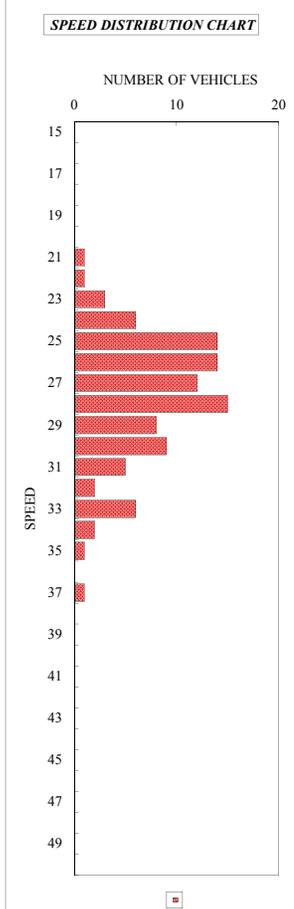
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/24/2017 DAY: THURSDAY TIME: 1:00-2:45PM

10. CHERRY STREET BETWEEN MIRABEAU DRIVE & THORNTON AVENUE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%									
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	1	1.0%	1.0%	21 mph	0	0.0%	0.0%	21 mph	1	0.5%	0.5%									
22 mph	1	1.0%	2.0%	22 mph	3	3.0%	3.0%	22 mph	4	2.0%	2.5%									
23 mph	3	3.0%	5.0%	23 mph	3	3.0%	6.0%	23 mph	6	3.0%	5.5%									
24 mph	6	6.0%	11.0%	24 mph	13	13.0%	19.0%	24 mph	19	9.5%	15.0%									
25 mph	14	14.0%	25.0%	25 mph	16	16.0%	35.0%	25 mph	30	15.0%	30.0%									
26 mph	14	14.0%	39.0%	26 mph	14	14.0%	49.0%	26 mph	28	14.0%	44.0%									
27 mph	12	12.0%	51.0%	27 mph	15	15.0%	64.0%	27 mph	27	13.5%	57.5%									
28 mph	15	15.0%	66.0%	28 mph	8	8.0%	72.0%	28 mph	23	11.5%	69.0%									
29 mph	8	8.0%	74.0%	29 mph	11	11.0%	83.0%	29 mph	19	9.5%	78.5%									
30 mph	9	9.0%	83.0%	30 mph	5	5.0%	88.0%	30 mph	14	7.0%	85.5%									
31 mph	5	5.0%	88.0%	31 mph	5	5.0%	93.0%	31 mph	10	5.0%	90.5%									
32 mph	2	2.0%	90.0%	32 mph	4	4.0%	97.0%	32 mph	6	3.0%	93.5%									
33 mph	6	6.0%	96.0%	33 mph	1	1.0%	98.0%	33 mph	7	3.5%	97.0%									
34 mph	2	2.0%	98.0%	34 mph	1	1.0%	99.0%	34 mph	3	1.5%	98.5%									
35 mph	1	1.0%	99.0%	35 mph	0	0.0%	99.0%	35 mph	1	0.5%	99.0%									
36 mph	0	0.0%	99.0%	36 mph	1	1.0%	100.0%	36 mph	1	0.5%	99.5%									
37 mph	1	1.0%	100.0%	37 mph	0	0.0%	100.0%	37 mph	1	0.5%	100.0%									
38 mph	0	0.0%	100.0%	38 mph	0	0.0%	100.0%	38 mph	0	0.0%	100.0%									
39 mph	0	0.0%	100.0%	39 mph	0	0.0%	100.0%	39 mph	0	0.0%	100.0%									
40 mph	0	0.0%	100.0%	40 mph	0	0.0%	100.0%	40 mph	0	0.0%	100.0%									
41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%									
42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%									
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	27.7	TOTAL:	100	100.0%		AVERAGE SPEED:	27.0	TOTAL:	200	100.0%		AVERAGE SPEED:	27.3			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	24.0	25.0	25.8	27.0	31.0	32.1	SPEEDS:	24.0	24.0	25.0	27.0	30.0	31.0	SPEEDS:	24.0	24.9	25.0	27.0	30.0	31.0
10 MPH PACE SPEED	24-33	NUMBER IN PACE		91	PERCENT:	91.0%	10 MPH PACE SPEED	23-32	NUMBER IN PACE		94	PERCENT:	94.0%	10 MPH PACE SPEED	24-33	NUMBER IN PACE		183	PERCENT:	91.5%
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	100	75	17	1	0	0	TOTAL:	100	65	12	1	0	0	TOTAL:	200	140	29	2	0	0
PERCENTAGE:	100.0%	75.0%	17.0%	1.0%	0.0%	0.0%	PERCENTAGE:	100.0%	65.0%	12.0%	1.0%	0.0%	0.0%	PERCENTAGE:	100.0%	70.0%	14.5%	1.0%	0.0%	0.0%



11. Cherry Street (between Thornton Ave. and Central Ave.)

This segment of Cherry Street is oriented in a primarily north-south direction between Thornton Avenue and Central Avenue. It consists of four lanes separated by raised center medians or two-way left turn lanes. It is straight, with a railroad crossing in the middle of the segment. Street parking is allowed. It is classified as an arterial street in the Newark General Plan. The segment carries through trips and serves adjacent residential units with direct driveway access.

Speed Data

There is an existing posted speed limit of 35 mph. There is a northbound speed limit sign located north of Central Avenue and a southbound speed limit sign south of Thornton Avenue.

The measured 85th-percentile speed was recorded as follows:

<u>Cherry Street:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Thornton Ave. to Central Ave.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	35 mph	40.2 mph	35 mph (no change)

Recommendation

Based on the measured speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The road is in a residential area and the residential unit density (CVC Section 627) meets the standard for consideration in setting the speed limit. Additional factors, including the combination of higher speed through vehicles and lower speed vehicles turning in and out of driveways. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph be implemented, resulting in a 35 mph speed limit.

Improvements

The northbound speed limit transitions on Cherry Street from 35 mph south of Thornton Avenue to 25 mph north of Thornton Avenue. Therefore, it is recommended that a speed reduction warning sign (CaMUTCD Type W3-5) be installed for northbound Cherry Street south of Thornton Avenue in order alert motorists of the approaching speed limit change.

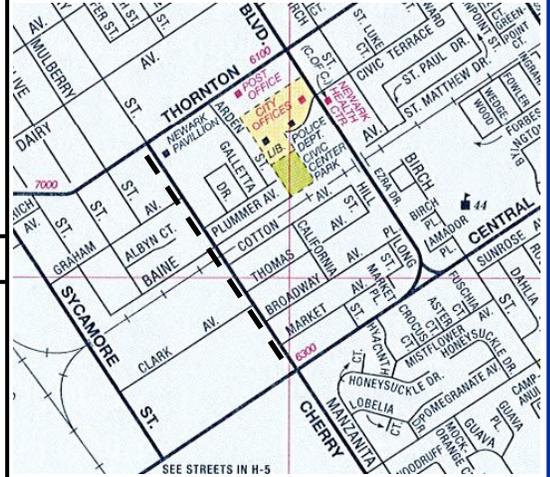
There is a southbound speed limit sign located south of Thornton Avenue that is partially obstructed by foliage.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: CHERRY STREET
Limits: between Thornton Avenue and Central Avenue

SPEED DATA

Location of Survey: between Graham Ave. and Bain Ave.
Date Taken: 8/23/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 40.2 mph
10-mph Pace Speed: 31-40 mph
% Vehicles in Pace/Above/Below: 81% / 15% / 4%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 7 ('12 = 1, '13 = 0, '14 = 0, '15 = 5, '16 = 1)
Speed Related Accidents: Total = 3 ('12 = 0, '13 = 0, '14 = 0, '15 = 3, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.69 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.53 mile
Average Daily Traffic: 10,413 ADT
Street Classification: Arterial
No. of lanes: 4 lanes with center medians and two-way left turn lanes.
Roadway Characteristics: Straight; railroad track crossing in middle of segment; parking is allowed.
Adjacent Land Use: Residential units with direct driveway access.
Other Conditions: Combination of higher speed through-vehicles and lower speed vehicles turning in and backing out of driveways.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential area and the residential unit density meets the standard for consideration in setting the speed limit, the combination of higher speed vehicles and lower speed vehicles turning in and out of driveways, and street parking activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

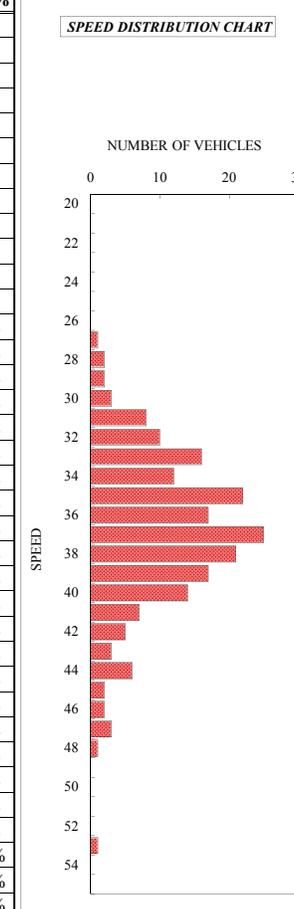
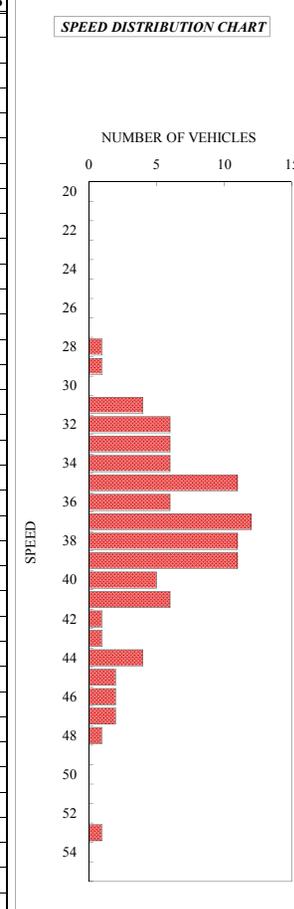
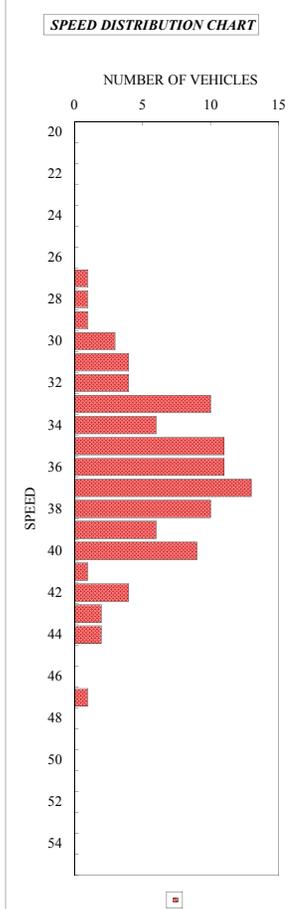
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/23/2017 DAY: WEDNESDAY TIME: 12:20-1:25PM

11. CHERRY STREET BETWEEN THORNTON AVENUE & CENTRAL AVENUE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%									
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%									
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%									
27 mph	1	1.0%	1.0%	27 mph	0	0.0%	0.0%	27 mph	1	0.5%	0.5%									
28 mph	1	1.0%	2.0%	28 mph	1	1.0%	1.0%	28 mph	2	1.0%	1.5%									
29 mph	1	1.0%	3.0%	29 mph	1	1.0%	2.0%	29 mph	2	1.0%	2.5%									
30 mph	3	3.0%	6.0%	30 mph	0	0.0%	2.0%	30 mph	3	1.5%	4.0%									
31 mph	4	4.0%	10.0%	31 mph	4	4.0%	6.0%	31 mph	8	4.0%	8.0%									
32 mph	4	4.0%	14.0%	32 mph	6	6.0%	12.0%	32 mph	10	5.0%	13.0%									
33 mph	10	10.0%	24.0%	33 mph	6	6.0%	18.0%	33 mph	16	8.0%	21.0%									
34 mph	6	6.0%	30.0%	34 mph	6	6.0%	24.0%	34 mph	12	6.0%	27.0%									
35 mph	11	11.0%	41.0%	35 mph	11	11.0%	35.0%	35 mph	22	11.0%	38.0%									
36 mph	11	11.0%	52.0%	36 mph	6	6.0%	41.0%	36 mph	17	8.5%	46.5%									
37 mph	13	13.0%	65.0%	37 mph	12	12.0%	53.0%	37 mph	25	12.5%	59.0%									
38 mph	10	10.0%	75.0%	38 mph	11	11.0%	64.0%	38 mph	21	10.5%	69.5%									
39 mph	6	6.0%	81.0%	39 mph	11	11.0%	75.0%	39 mph	17	8.5%	78.0%									
40 mph	9	9.0%	90.0%	40 mph	5	5.0%	80.0%	40 mph	14	7.0%	85.0%									
41 mph	1	1.0%	91.0%	41 mph	6	6.0%	86.0%	41 mph	7	3.5%	88.5%									
42 mph	4	4.0%	95.0%	42 mph	1	1.0%	87.0%	42 mph	5	2.5%	91.0%									
43 mph	2	2.0%	97.0%	43 mph	1	1.0%	88.0%	43 mph	3	1.5%	92.5%									
44 mph	2	2.0%	99.0%	44 mph	4	4.0%	92.0%	44 mph	6	3.0%	95.5%									
45 mph	0	0.0%	99.0%	45 mph	2	2.0%	94.0%	45 mph	2	1.0%	96.5%									
46 mph	0	0.0%	99.0%	46 mph	2	2.0%	96.0%	46 mph	2	1.0%	97.5%									
47 mph	1	1.0%	100.0%	47 mph	2	2.0%	98.0%	47 mph	3	1.5%	99.0%									
48 mph	0	0.0%	100.0%	48 mph	1	1.0%	99.0%	48 mph	1	0.5%	99.5%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	99.0%	49 mph	0	0.0%	99.5%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	99.0%	50 mph	0	0.0%	99.5%									
51 mph	0	0.0%	100.0%	51 mph	0	0.0%	99.0%	51 mph	0	0.0%	99.5%									
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	99.0%	52 mph	0	0.0%	99.5%									
53 mph	0	0.0%	100.0%	53 mph	1	1.0%	100.0%	53 mph	1	0.5%	100.0%									
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%									
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	36.3	TOTAL:	100	100.0%		AVERAGE SPEED:	37.5	TOTAL:	200	100.0%		AVERAGE SPEED:	36.9			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	31.9	33.0	34.0	36.0	40.0	40.1	SPEEDS:	32.0	33.0	35.0	37.0	41.0	44.0	SPEEDS:	32.0	33.0	34.0	37.0	40.2	42.0
10 MPH PACE SPEED	31-40	NUMBER IN PACE	84	PERCENT:	84.0%	10 MPH PACE SPEED	32-41	NUMBER IN PACE	80	PERCENT:	80.0%	10 MPH PACE SPEED	31-40	NUMBER IN PACE:	162	PERCENT:	81.0%			
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	100	94	59	10	1	0	TOTAL:	100	98	65	20	6	1	TOTAL:	200	192	124	30	7	1
PERCENTAGE:	100.0%	94.0%	59.0%	10.0%	1.0%	0.0%	PERCENTAGE:	100.0%	98.0%	65.0%	20.0%	6.0%	1.0%	PERCENTAGE:	100.0%	96.0%	62.0%	15.0%	3.5%	0.5%



12. Cherry Street (between Central Ave. and Stevenson Blvd.)

This segment of Cherry Street extends south from Central Avenue to Stevenson Boulevard. It consists of four through lanes separated by raised center medians between Central Avenue and Mowry Avenue, then two-way left turn lanes between Mowry Avenue and Stevenson Boulevard. It is primarily straight with moderate curves near Mowry Avenue and Joaquin Murieta Avenue. There are striped bicycle lanes along most sections. Parking is allowed in some sections south of Mowry Avenue. It is classified as an arterial road in the Newark General Plan. There are residential neighborhoods to the east and commercial/light industrial businesses to the west. There is also a high school located on the east side and a community park/recreation center on the west side.

Speed Data

There is an existing posted speed limit of 45 mph. There are southbound speed limit signs located near Central Avenue, Smith Avenue, and Mowry Avenue. There are northbound signs located near Stevenson Boulevard, Joaquin Murieta Avenue, Moores Avenue, and Smith Avenue. There is also a northbound speed reduction warning sign (CaMUTCD Type W3-5) located south of Central Avenue to alert motorists of a speed limit reduction to 35 mph north of Central Avenue.

The measured 85th-percentile speed was recorded as follows:

<u>Cherry Street:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Central Ave. to Stevenson Blvd.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	45 mph	50.0 mph	45 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 45 mph. The combination of nearby residential areas, recreation center, school, and associated pedestrian activity warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 50 mph, resulting in a 45 mph speed limit.

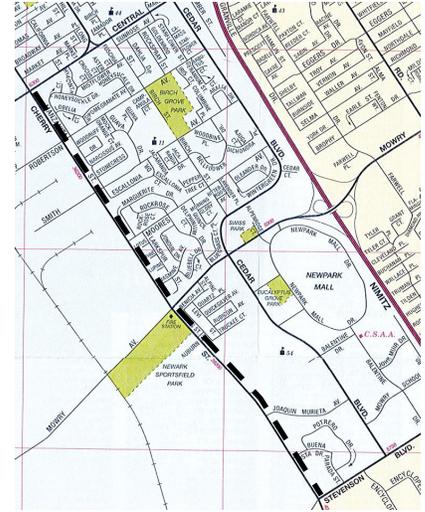
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: CHERRY STREET
Limits: between Central Avenue and Stevenson Boulevard

SPEED DATA

Location of Survey: between Smith Ave. and Jasmine Ave.
Date Taken: 8/23/17
Existing Speed Limit: 45 mph
85th Percentile Speed: 50.0 mph
10-mph Pace Speed: 42-51 mph
% Vehicles in Pace/Above/Below: 85% / 6% / 9%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 20 ('12 = 3, '13 = 2, '14 = 3, '15 = 8, '16 = 4)
Speed Related Accidents: Total = 8 ('12 = 2, '13 = 0, '14 = 2, '15 = 3, '16 = 1)
Accident Rate (accs. per million vehicle miles): 0.30 a/mvm
Statewide Average Rate: 1.92 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 2.00 mile
Average Daily Traffic: 18,348 ADT
Street Classification: Arterial
No. of lanes: 4 lanes with center medians and two-way left turn lanes.
Roadway Characteristics: Mostly straight with moderate horizontal curves near Mowry Avenue and Joaquin Murieta Avenue; striped bicycle lanes on most of the segment; street parking allowed in sections south of Mowry Avenue.
Adjacent Land Use: Residential area to the east (no direct driveway access) and industrial businesses to the west.
Other Conditions: School located on east side and community recreational complex on the west side with associated pedestrian activities.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include nearby residential areas, recreation center, and school with associated pedestrian activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 50 mph, resulting in a 45 mph speed limit.

Recommended Speed Limit = 45 mph

Existing Speed Limit = 45 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

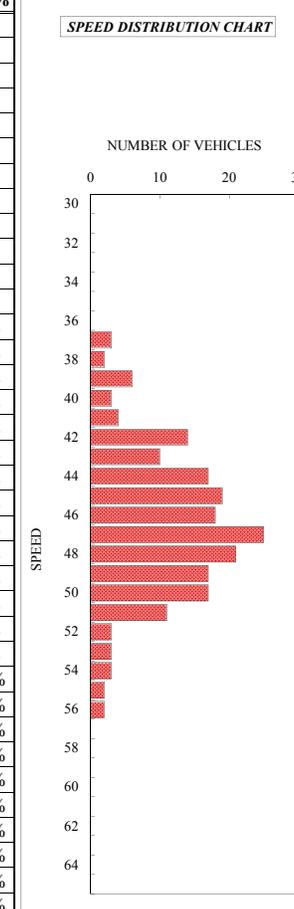
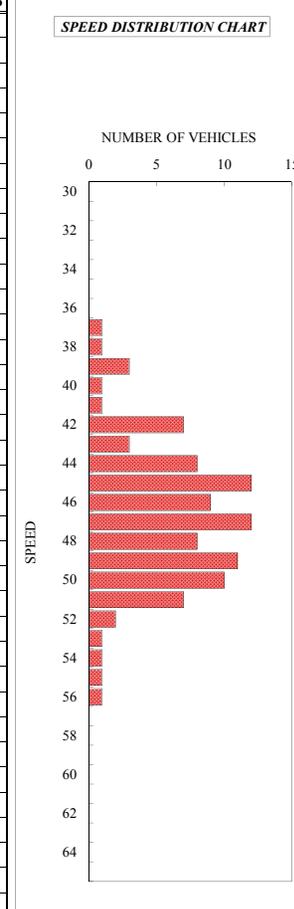
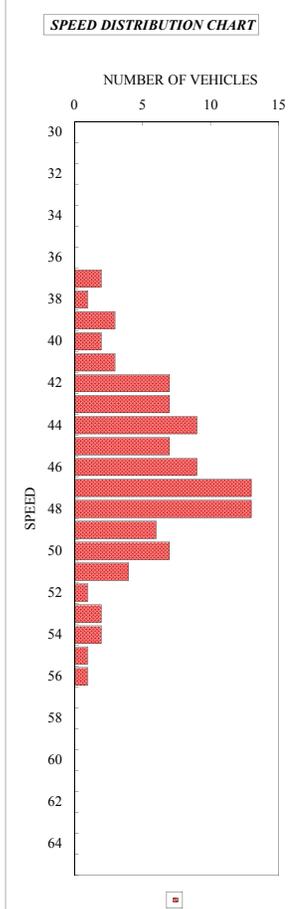
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/23/2017 DAY: WEDNESDAY TIME: 11:35-12:15PM

12. CHERRY STREET BETWEEN CENTRAL AVENUE & STEVENSON BOULEVARD

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED						
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %			
30 mph	0	0.0%	0.0%	30 mph	0	0.0%	0.0%	30 mph	0	0.0%	0.0%			
31 mph	0	0.0%	0.0%	31 mph	0	0.0%	0.0%	31 mph	0	0.0%	0.0%			
32 mph	0	0.0%	0.0%	32 mph	0	0.0%	0.0%	32 mph	0	0.0%	0.0%			
33 mph	0	0.0%	0.0%	33 mph	0	0.0%	0.0%	33 mph	0	0.0%	0.0%			
34 mph	0	0.0%	0.0%	34 mph	0	0.0%	0.0%	34 mph	0	0.0%	0.0%			
35 mph	0	0.0%	0.0%	35 mph	0	0.0%	0.0%	35 mph	0	0.0%	0.0%			
36 mph	0	0.0%	0.0%	36 mph	0	0.0%	0.0%	36 mph	0	0.0%	0.0%			
37 mph	2	2.0%	2.0%	37 mph	1	1.0%	1.0%	37 mph	3	1.5%	1.5%			
38 mph	1	1.0%	3.0%	38 mph	1	1.0%	2.0%	38 mph	2	1.0%	2.5%			
39 mph	3	3.0%	6.0%	39 mph	3	3.0%	5.0%	39 mph	6	3.0%	5.5%			
40 mph	2	2.0%	8.0%	40 mph	1	1.0%	6.0%	40 mph	3	1.5%	7.0%			
41 mph	3	3.0%	11.0%	41 mph	1	1.0%	7.0%	41 mph	4	2.0%	9.0%			
42 mph	7	7.0%	18.0%	42 mph	7	7.0%	14.0%	42 mph	14	7.0%	16.0%			
43 mph	7	7.0%	25.0%	43 mph	3	3.0%	17.0%	43 mph	10	5.0%	21.0%			
44 mph	9	9.0%	34.0%	44 mph	8	8.0%	25.0%	44 mph	17	8.5%	29.5%			
45 mph	7	7.0%	41.0%	45 mph	12	12.0%	37.0%	45 mph	19	9.5%	39.0%			
46 mph	9	9.0%	50.0%	46 mph	9	9.0%	46.0%	46 mph	18	9.0%	48.0%			
47 mph	13	13.0%	63.0%	47 mph	12	12.0%	58.0%	47 mph	25	12.5%	60.5%			
48 mph	13	13.0%	76.0%	48 mph	8	8.0%	66.0%	48 mph	21	10.5%	71.0%			
49 mph	6	6.0%	82.0%	49 mph	11	11.0%	77.0%	49 mph	17	8.5%	79.5%			
50 mph	7	7.0%	89.0%	50 mph	10	10.0%	87.0%	50 mph	17	8.5%	88.0%			
51 mph	4	4.0%	93.0%	51 mph	7	7.0%	94.0%	51 mph	11	5.5%	93.5%			
52 mph	1	1.0%	94.0%	52 mph	2	2.0%	96.0%	52 mph	3	1.5%	95.0%			
53 mph	2	2.0%	96.0%	53 mph	1	1.0%	97.0%	53 mph	3	1.5%	96.5%			
54 mph	2	2.0%	98.0%	54 mph	1	1.0%	98.0%	54 mph	3	1.5%	98.0%			
55 mph	1	1.0%	99.0%	55 mph	1	1.0%	99.0%	55 mph	2	1.0%	99.0%			
56 mph	1	1.0%	100.0%	56 mph	1	1.0%	100.0%	56 mph	2	1.0%	100.0%			
57 mph	0	0.0%	100.0%	57 mph	0	0.0%	100.0%	57 mph	0	0.0%	100.0%			
58 mph	0	0.0%	100.0%	58 mph	0	0.0%	100.0%	58 mph	0	0.0%	100.0%			
59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%			
60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%			
61 mph	0	0.0%	100.0%	61 mph	0	0.0%	100.0%	61 mph	0	0.0%	100.0%			
62 mph	0	0.0%	100.0%	62 mph	0	0.0%	100.0%	62 mph	0	0.0%	100.0%			
63 mph	0	0.0%	100.0%	63 mph	0	0.0%	100.0%	63 mph	0	0.0%	100.0%			
64 mph	0	0.0%	100.0%	64 mph	0	0.0%	100.0%	64 mph	0	0.0%	100.0%			
65 mph	0	0.0%	100.0%	65 mph	0	0.0%	100.0%	65 mph	0	0.0%	100.0%			
TOTAL:	100	100.0%		TOTAL:	100	100.0%		TOTAL:	200	100.0%				
AVERAGE SPEED: 46.1				AVERAGE SPEED: 46.7				AVERAGE SPEED: 46.4						
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	41.0	42.0	43.8	46.5	50.0	51.0		SPEEDS:	42.0	42.0	44.0	47.0	50.0	51.0
10 MPH PACE SPEED	42-51	NUMBER IN PACE		82	PERCENT:	82.0%		10 MPH PACE SPEED	42-51	NUMBER IN PACE		87	PERCENT:	87.0%
SPEED EXCEEDED:	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH		SPEED EXCEEDED:	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH
TOTAL:	100	92	59	11	1	0		TOTAL:	100	94	63	13	1	0
PERCENTAGE:	100.0%	92.0%	59.0%	11.0%	1.0%	0.0%		PERCENTAGE:	100.0%	94.0%	63.0%	13.0%	1.0%	0.0%



13. Clark Avenue (between Cherry St. and Sycamore St.)

Clark Avenue extends in a primarily east-west direction between Cherry Street and Sycamore Street. It is a two lane road that is flat and straight with dashed yellow centerline striping. Parking is allowed on both sides of the street. It is classified as a local road in the Newark General Plan. There is a post office on the north side and warehouse/industrial businesses with trucks turning in and out of driveways.

Speed Data

There is an existing posted speed limit of 35 mph. There is a westbound speed limit sign located near Cherry Street and a northbound sign near Sycamore Street.

The measured 85th-percentile speed was recorded as follows:

<u>Clark Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Cherry St. to Sycamore St.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	35 mph	39.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The combination of higher speed vehicles and lower speed trucks turning in and out of driveways warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

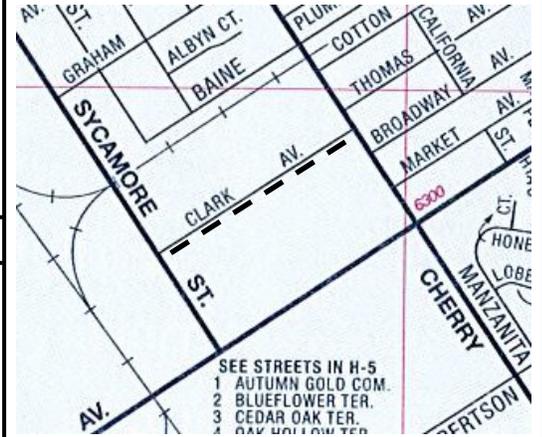
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: CLARK AVENUE
Limits: between Cherry Street and Sycamore Street

SPEED DATA

Location of Survey: between Cherry St. and Sycamore St.
Date Taken: 8/23/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 39.0 mph
10-mph Pace Speed: 29-38 mph
% Vehicles in Pace/Above/Below: 63% / 16% / 21%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 3 ('12 = 0, '13 = 0, '14 = 1, '15 = 2, '16 = 0)
Speed Related Accidents: Total = 1 ('12 = 0, '13 = 0, '14 = 0, '15 = 1, '16 = 0)
Accident Rate (accs. per million vehicle miles): 3.24 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.30 mile
Average Daily Traffic: 1,693 ADT
Street Classification: Local
No. of lanes: 2 lanes with center line striping.
Roadway Characteristics: Straight; Street parking allowed (parked vehicles include semi-trailer trucks).
Adjacent Land Use: Warehouse/industrial.
Other Conditions: Combination of higher speed vehicles and lower speed trucks turning in and out of driveways and parking on street.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include higher speed vehicles and lower speed trucks turning in and out of driveways and parking on the street, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK **DATE: 8/23/2017** **DAY: WEDNESDAY** **TIME: 1:45-3:00PM 5:40-6:20PM**

13. CLARK AVENUE BETWEEN CHERRY STREET & SYCAMORE STREET

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%									
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	1	1.0%	1.0%	21 mph	0	0.0%	0.0%	21 mph	1	0.5%	0.5%									
22 mph	2	2.0%	3.0%	22 mph	0	0.0%	0.0%	22 mph	2	1.0%	1.5%									
23 mph	5	5.0%	8.0%	23 mph	2	2.0%	2.0%	23 mph	7	3.5%	5.0%									
24 mph	4	4.0%	12.0%	24 mph	1	1.0%	3.0%	24 mph	5	2.5%	7.5%									
25 mph	4	4.0%	16.0%	25 mph	3	3.0%	6.0%	25 mph	7	3.5%	11.0%									
26 mph	2	2.0%	18.0%	26 mph	2	2.0%	8.0%	26 mph	4	2.0%	13.0%									
27 mph	6	6.0%	24.0%	27 mph	3	3.0%	11.0%	27 mph	9	4.5%	17.5%									
28 mph	4	4.0%	28.0%	28 mph	3	3.0%	14.0%	28 mph	7	3.5%	21.0%									
29 mph	6	6.0%	34.0%	29 mph	5	5.0%	19.0%	29 mph	11	5.5%	26.5%									
30 mph	7	7.0%	41.0%	30 mph	2	2.0%	21.0%	30 mph	9	4.5%	31.0%									
31 mph	8	8.0%	49.0%	31 mph	7	7.0%	28.0%	31 mph	15	7.5%	38.5%									
32 mph	10	10.0%	59.0%	32 mph	6	6.0%	34.0%	32 mph	16	8.0%	46.5%									
33 mph	12	12.0%	71.0%	33 mph	10	10.0%	44.0%	33 mph	22	11.0%	57.5%									
34 mph	6	6.0%	77.0%	34 mph	9	9.0%	53.0%	34 mph	15	7.5%	65.0%									
35 mph	5	5.0%	82.0%	35 mph	9	9.0%	62.0%	35 mph	14	7.0%	72.0%									
36 mph	1	1.0%	83.0%	36 mph	5	5.0%	67.0%	36 mph	6	3.0%	75.0%									
37 mph	2	2.0%	85.0%	37 mph	7	7.0%	74.0%	37 mph	9	4.5%	79.5%									
38 mph	5	5.0%	90.0%	38 mph	3	3.0%	77.0%	38 mph	8	4.0%	83.5%									
39 mph	2	2.0%	92.0%	39 mph	8	8.0%	85.0%	39 mph	10	5.0%	88.5%									
40 mph	4	4.0%	96.0%	40 mph	3	3.0%	88.0%	40 mph	7	3.5%	92.0%									
41 mph	1	1.0%	97.0%	41 mph	3	3.0%	91.0%	41 mph	4	2.0%	94.0%									
42 mph	3	3.0%	100.0%	42 mph	3	3.0%	94.0%	42 mph	6	3.0%	97.0%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	94.0%	43 mph	0	0.0%	97.0%									
44 mph	0	0.0%	100.0%	44 mph	1	1.0%	95.0%	44 mph	1	0.5%	97.5%									
45 mph	0	0.0%	100.0%	45 mph	2	2.0%	97.0%	45 mph	2	1.0%	98.5%									
46 mph	0	0.0%	100.0%	46 mph	1	1.0%	98.0%	46 mph	1	0.5%	99.0%									
47 mph	0	0.0%	100.0%	47 mph	2	2.0%	100.0%	47 mph	2	1.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	31.3	TOTAL:	100	100.0%		AVERAGE SPEED:	34.4	TOTAL:	200	100.0%		AVERAGE SPEED:	32.8			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	24.0	25.0	28.0	32.0	37.2	38.1	SPEEDS:	27.0	29.0	31.0	34.0	39.2	41.0	SPEEDS:	25.0	27.0	29.0	33.0	39.0	40.0
10 MPH PACE SPEED	26-35	NUMBER IN PACE	66	PERCENT:	66.0%	10 MPH PACE SPEED	31-40	NUMBER IN PACE	67	PERCENT:	67.0%	10 MPH PACE SPEED	29-38	NUMBER IN PACE:	125	PERCENT:	62.5%			
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	100	84	59	18	4	0	TOTAL:	100	94	79	38	12	3	TOTAL:	200	178	138	56	16	3
PERCENTAGE:	100.0%	84.0%	59.0%	18.0%	4.0%	0.0%	PERCENTAGE:	100.0%	94.0%	79.0%	38.0%	12.0%	3.0%	PERCENTAGE:	100.0%	89.0%	69.0%	28.0%	8.0%	1.5%

14. Edgewater Drive (between Lake Blvd. and Cedar Blvd.)

Edgewater Drive extends east from Lake Boulevard then curves south and then curves west to Cedar Boulevard forming a loop road. It is a two lane road separated by raised center medians. Parking is allowed. It is classified as a collector road in the Newark General Plan. The road extends through a residential neighborhood, but there is no direct driveway access. There is a community park on the west side.

Speed Data

The segment has a posted speed limit of 30 mph. Traveling from Lake Boulevard to Cedar Boulevard, there are speed limit signs located near Maidstone Court, Farnham Drive, Chelsea Drive, and Parkshore Drive. Traveling from Cedar Boulevard to Lake Boulevard, there is a speed limit sign located near Parkshore Drive. The measured 85th-percentile speed was recorded as follows:

<u>Edgewater Drive:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Lake Blvd. to Cedar Blvd.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	30 mph	34.0 mph	30 mph (no change)

Recommendation

Based on the measured 85th percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 30 mph. The road is in a residential area. Other factors include proximity of a community park with associated pedestrian and bicycle activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 35 mph be implemented, resulting in a 30 mph speed limit.

Improvements

Consideration could be given to installing one or two additional northbound speed limit signs.

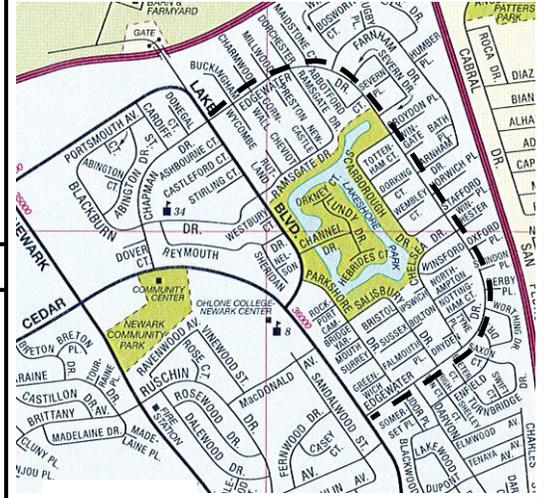
There is a westbound speed limit sign located west of Parkshore Drive a short distance from Cedar Boulevard. Given the short distance, consideration could be given to removing this sign.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **EDGEWATER DRIVE**
Limits: **between Lake Blvd. and Cedar Blvd.**

SPEED DATA

Location of Survey: between Farnham Dr. and Scarborough Dr.
Date Taken: 8/16/17
Existing Speed Limit: 30 mph
85th Percentile Speed: 34.0 mph
10-mph Pace Speed: 27-36 mph
% Vehicles in Pace/Above/Below: 83% / 6% / 11%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 1 ('12 = 0, '13 = 0, '14 = 0, '15 = 1, '16 = 0)
Speed Related Accidents: Total = 1 ('12 = 0, '13 = 0, '14 = 0, '15 = 1, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.09 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 1.29 mile
Average Daily Traffic: 4,782 ADT
Street Classification: Collector
No. of lanes: 2 lanes with center medians.
Roadway Characteristics: Straight and curved sections forming loop road; Street parking allowed.
Adjacent Land Use: Residential neighborhood, but no direct driveway access.
Other Conditions: Community park located on west side.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential neighborhood and community park with associated pedestrian activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 35 mph, resulting in a 30 mph speed limit.

Recommended Speed Limit = 30 mph

Existing Speed Limit = 30 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

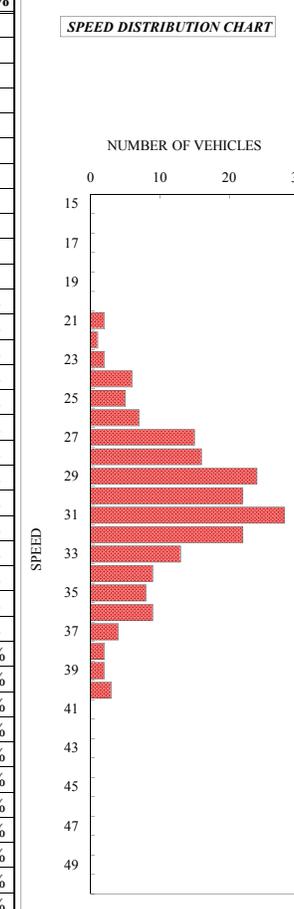
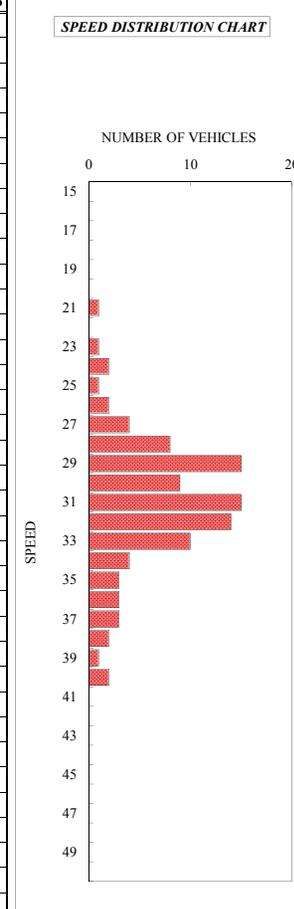
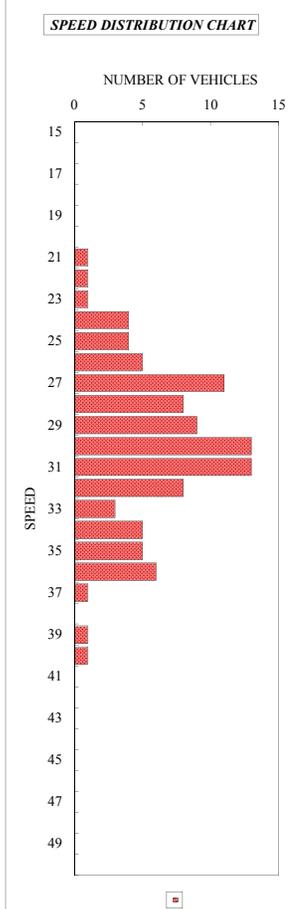
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/16/2017 DAY: WEDNESDAY TIME: 10:20-11:45AM

14. EDGEWATER DRIVE BETWEEN LAKE BOULEVARD & CEDAR BOULEVARD

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED														
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %											
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%											
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%											
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%											
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%											
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%											
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%											
21 mph	1	1.0%	1.0%	21 mph	1	1.0%	1.0%	21 mph	2	1.0%	1.0%											
22 mph	1	1.0%	2.0%	22 mph	0	0.0%	1.0%	22 mph	1	0.5%	1.5%											
23 mph	1	1.0%	3.0%	23 mph	1	1.0%	2.0%	23 mph	2	1.0%	2.5%											
24 mph	4	4.0%	7.0%	24 mph	2	2.0%	4.0%	24 mph	6	3.0%	5.5%											
25 mph	4	4.0%	11.0%	25 mph	1	1.0%	5.0%	25 mph	5	2.5%	8.0%											
26 mph	5	5.0%	16.0%	26 mph	2	2.0%	7.0%	26 mph	7	3.5%	11.5%											
27 mph	11	11.0%	27.0%	27 mph	4	4.0%	11.0%	27 mph	15	7.5%	19.0%											
28 mph	8	8.0%	35.0%	28 mph	8	8.0%	19.0%	28 mph	16	8.0%	27.0%											
29 mph	9	9.0%	44.0%	29 mph	15	15.0%	34.0%	29 mph	24	12.0%	39.0%											
30 mph	13	13.0%	57.0%	30 mph	9	9.0%	43.0%	30 mph	22	11.0%	50.0%											
31 mph	13	13.0%	70.0%	31 mph	15	15.0%	58.0%	31 mph	28	14.0%	64.0%											
32 mph	8	8.0%	78.0%	32 mph	14	14.0%	72.0%	32 mph	22	11.0%	75.0%											
33 mph	3	3.0%	81.0%	33 mph	10	10.0%	82.0%	33 mph	13	6.5%	81.5%											
34 mph	5	5.0%	86.0%	34 mph	4	4.0%	86.0%	34 mph	9	4.5%	86.0%											
35 mph	5	5.0%	91.0%	35 mph	3	3.0%	89.0%	35 mph	8	4.0%	90.0%											
36 mph	6	6.0%	97.0%	36 mph	3	3.0%	92.0%	36 mph	9	4.5%	94.5%											
37 mph	1	1.0%	98.0%	37 mph	3	3.0%	95.0%	37 mph	4	2.0%	96.5%											
38 mph	0	0.0%	98.0%	38 mph	2	2.0%	97.0%	38 mph	2	1.0%	97.5%											
39 mph	1	1.0%	99.0%	39 mph	1	1.0%	98.0%	39 mph	2	1.0%	98.5%											
40 mph	1	1.0%	100.0%	40 mph	2	2.0%	100.0%	40 mph	3	1.5%	100.0%											
41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%											
42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%											
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%											
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%											
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%											
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%											
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%											
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%											
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%											
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%											
TOTAL:	100	100.0%		AVERAGE SPEED:	30.0			TOTAL:	100	100.0%		AVERAGE SPEED:	31.0			TOTAL:	200	100.0%		AVERAGE SPEED:	30.5	
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	25.0	26.0	27.0	30.0	34.0	35.0		SPEEDS:	27.0	28.0	29.0	31.0	34.0	36.0		SPEEDS:	26.0	27.0	28.0	30.5	34.0	35.1
10 MPH PACE SPEED	27-36	NUMBER IN PACE		81	PERCENT:	81.0%		10 MPH PACE SPEED	27-36	NUMBER IN PACE		85	PERCENT:	85.0%		10 MPH PACE SPEED	27-36	NUMBER IN PACE		166	PERCENT:	83.0%
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH		SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH		SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	100	89	43	9	0	0		TOTAL:	100	95	57	11	0	0		TOTAL:	200	184	100	20	0	0
PERCENTAGE:	100.0%	89.0%	43.0%	9.0%	0.0%	0.0%		PERCENTAGE:	100.0%	95.0%	57.0%	11.0%	0.0%	0.0%		PERCENTAGE:	100.0%	92.0%	50.0%	10.0%	0.0%	0.0%



15. Enterprise Drive (between Willow St. and Filbert St.)

This segment of Enterprise Drive extends west from Filbert Street then curves north to Wells Avenue then curves west again to Willow Street. It consists of four through lanes separated by yellow centerline striping. Parking is allowed. It is classified as a collector road in the Newark General Plan. The segment extends through an industrial/warehouse district with truck traffic turning in and out of driveways.

Speed Data

There is an existing posted speed limit of 35 mph. There is a westbound sign located near Filbert Street and an eastbound sign located near Willow Street. There are also advisory “Curve / 20 mph” signs located on the approaches to each of the two curved segments.

The measured 85th-percentile speed was recorded as follows:

<u>Enterprise Drive:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Filbert St. to Willow St.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	35 mph	39.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The combination of higher speed vehicles and lower speed trucks turning in and out of driveways, street parking activity, and curved sections warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Improvements

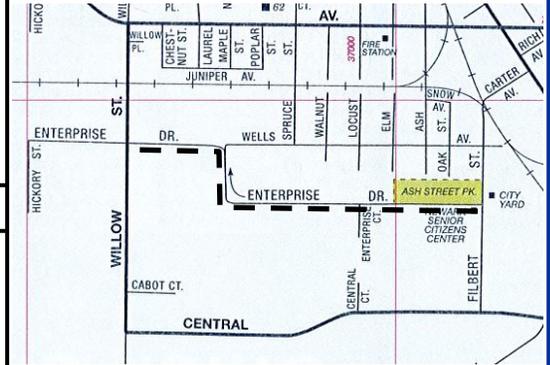
The eastbound “Curve” advisory assembly on the approach to the curve near Wells Avenue is missing the advisory “20 mph” sign, therefore it is recommended a new advisory “20 mph” sign be added.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: ENTERPRISE DRIVE
Limits: between Willow Street and Filbert Street

SPEED DATA

Location of Survey: between Enterprise Ct. and Wells Ave.
Date Taken: 9/13/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 39.0 mph
10-mph Pace Speed: 31-40 mph
% Vehicles in Pace/Above/Below: 83% / 8% / 9%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 5 ('12 = 0, '13 = 1, '14 = 0, '15 = 0, '16 = 4)
Speed Related Accidents: Total = 2 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 2)
Accident Rate (accs. per million vehicle miles): 2.16 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.88 mile
Average Daily Traffic: 1,439 ADT
Street Classification: Collector
No. of lanes: 4 lanes with center line striping.
Roadway Characteristics: Straight and curved sections; Street parking allowed.
Adjacent Land Use: Warehouse/industrial.
Other Conditions: Large trucks turning in and out of driveways and parking on street.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include higher speed vehicles and lower speed trucks turning in and out of driveways and parking on the street, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

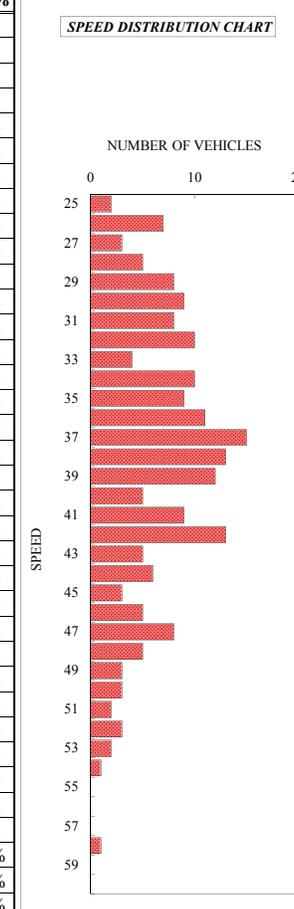
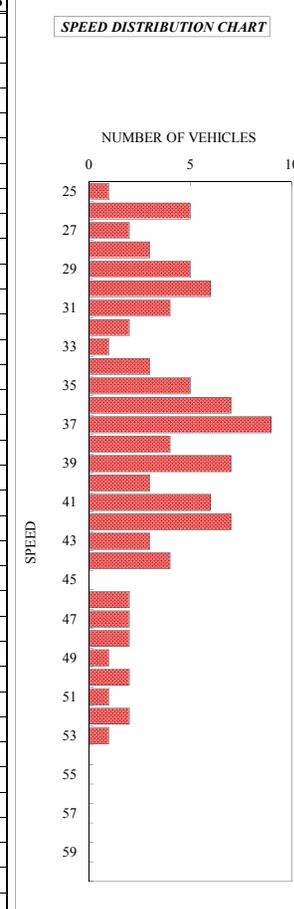
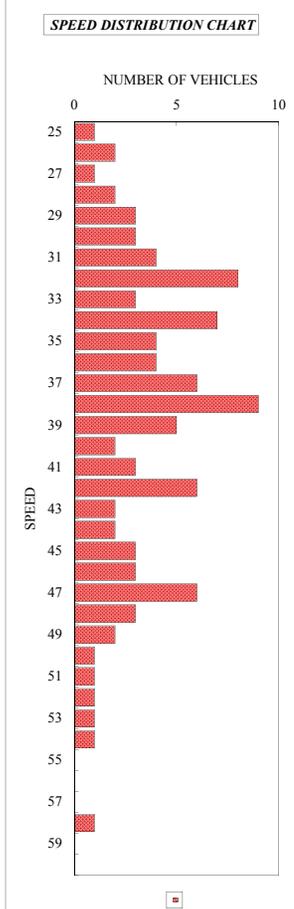
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/17/2017 DAY: THURSDAY TIME: 11:20-12:45PM

15. ENTERPRISE DRIVE BETWEEN WILLOW STREET & FILBERT STREET

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
25 mph	1	1.0%	1.0%	25 mph	1	1.0%	1.0%	25 mph	2	1.0%	1.0%									
26 mph	2	2.0%	3.0%	26 mph	5	5.0%	6.0%	26 mph	7	3.5%	4.5%									
27 mph	1	1.0%	4.0%	27 mph	2	2.0%	8.0%	27 mph	3	1.5%	6.0%									
28 mph	2	2.0%	6.0%	28 mph	3	3.0%	11.0%	28 mph	5	2.5%	8.5%									
29 mph	3	3.0%	9.0%	29 mph	5	5.0%	16.0%	29 mph	8	4.0%	12.5%									
30 mph	3	3.0%	12.0%	30 mph	6	6.0%	22.0%	30 mph	9	4.5%	17.0%									
31 mph	4	4.0%	16.0%	31 mph	4	4.0%	26.0%	31 mph	8	4.0%	21.0%									
32 mph	8	8.0%	24.0%	32 mph	2	2.0%	28.0%	32 mph	10	5.0%	26.0%									
33 mph	3	3.0%	27.0%	33 mph	1	1.0%	29.0%	33 mph	4	2.0%	28.0%									
34 mph	7	7.0%	34.0%	34 mph	3	3.0%	32.0%	34 mph	10	5.0%	33.0%									
35 mph	4	4.0%	38.0%	35 mph	5	5.0%	37.0%	35 mph	9	4.5%	37.5%									
36 mph	4	4.0%	42.0%	36 mph	7	7.0%	44.0%	36 mph	11	5.5%	43.0%									
37 mph	6	6.0%	48.0%	37 mph	9	9.0%	53.0%	37 mph	15	7.5%	50.5%									
38 mph	9	9.0%	57.0%	38 mph	4	4.0%	57.0%	38 mph	13	6.5%	57.0%									
39 mph	5	5.0%	62.0%	39 mph	7	7.0%	64.0%	39 mph	12	6.0%	63.0%									
40 mph	2	2.0%	64.0%	40 mph	3	3.0%	67.0%	40 mph	5	2.5%	65.5%									
41 mph	3	3.0%	67.0%	41 mph	6	6.0%	73.0%	41 mph	9	4.5%	70.0%									
42 mph	6	6.0%	73.0%	42 mph	7	7.0%	80.0%	42 mph	13	6.5%	76.5%									
43 mph	2	2.0%	75.0%	43 mph	3	3.0%	83.0%	43 mph	5	2.5%	79.0%									
44 mph	2	2.0%	77.0%	44 mph	4	4.0%	87.0%	44 mph	6	3.0%	82.0%									
45 mph	3	3.0%	80.0%	45 mph	0	0.0%	87.0%	45 mph	3	1.5%	83.5%									
46 mph	3	3.0%	83.0%	46 mph	2	2.0%	89.0%	46 mph	5	2.5%	86.0%									
47 mph	6	6.0%	89.0%	47 mph	2	2.0%	91.0%	47 mph	8	4.0%	90.0%									
48 mph	3	3.0%	92.0%	48 mph	2	2.0%	93.0%	48 mph	5	2.5%	92.5%									
49 mph	2	2.0%	94.0%	49 mph	1	1.0%	94.0%	49 mph	3	1.5%	94.0%									
50 mph	1	1.0%	95.0%	50 mph	2	2.0%	96.0%	50 mph	3	1.5%	95.5%									
51 mph	1	1.0%	96.0%	51 mph	1	1.0%	97.0%	51 mph	2	1.0%	96.5%									
52 mph	1	1.0%	97.0%	52 mph	2	2.0%	99.0%	52 mph	3	1.5%	98.0%									
53 mph	1	1.0%	98.0%	53 mph	1	1.0%	100.0%	53 mph	2	1.0%	99.0%									
54 mph	1	1.0%	99.0%	54 mph	0	0.0%	100.0%	54 mph	1	0.5%	99.5%									
55 mph	0	0.0%	99.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	99.5%									
56 mph	0	0.0%	99.0%	56 mph	0	0.0%	100.0%	56 mph	0	0.0%	99.5%									
57 mph	0	0.0%	99.0%	57 mph	0	0.0%	100.0%	57 mph	0	0.0%	99.5%									
58 mph	1	1.0%	100.0%	58 mph	0	0.0%	100.0%	58 mph	1	0.5%	100.0%									
59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%									
60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	38.4	TOTAL:	100	100.0%		AVERAGE SPEED:	37.3	TOTAL:	200	100.0%		AVERAGE SPEED:	37.9			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	30.0	31.0	33.0	38.0	47.0	48.0	SPEEDS:	28.0	29.0	31.0	37.0	44.0	47.0	SPEEDS:	29.0	30.0	32.0	37.0	46.0	47.1
10 MPH PACE SPEED	30-39	NUMBER IN PACE		53	PERCENT:	53.0%	10 MPH PACE SPEED	35-44	NUMBER IN PACE		55	PERCENT:	55.0%	10 MPH PACE SPEED	34-43	NUMBER IN PACE		102	PERCENT:	51.0%
SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH
TOTAL:	88	62	36	20	5	1	TOTAL:	78	63	33	13	4	0	TOTAL:	166	125	69	33	9	1
PERCENTAGE:	88.0%	62.0%	36.0%	20.0%	5.0%	1.0%	PERCENTAGE:	78.0%	63.0%	33.0%	13.0%	4.0%	0.0%	PERCENTAGE:	83.0%	62.5%	34.5%	16.5%	4.5%	0.5%



16. Eureka Drive (loop road between Stevenson Blvd.)

Eureka Drive extends north from Stevenson Boulevard then curves west and then curves south to Stevenson Boulevard again forming a loop road. It is a two lane road separated by centerline striping. Parking is not allowed. It is classified as a local road in the Newark General Plan. The road extends through a light industrial/office park development with driveways serving parking lots.

Speed Data

The segment has a posted speed limit of 35 mph. There are northbound signs located just north of Stevenson Boulevard at both of the Eureka Drive intersections. The measured 85th-percentile speed was recorded as follows:

<u>Eureka Drive:</u>	<u>Speed</u> <u>Limit</u>	<u>85th %</u> <u>Speed</u>	<u>Recommended</u> <u>Speed Limit</u>
Loop road between Stevenson Blvd.	35 mph	32.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph.

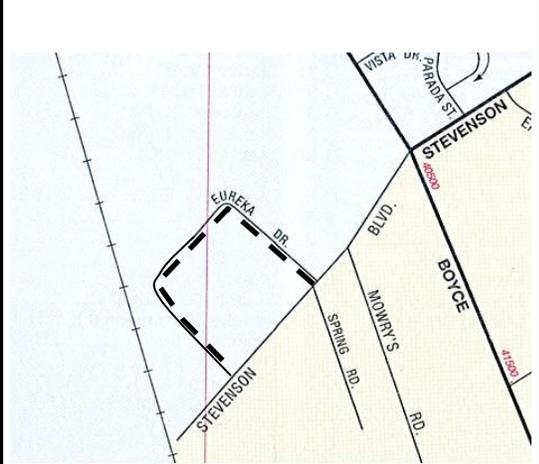
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: EUREKA DRIVE
Limits: loop road between Stevenson Blvd.

SPEED DATA

Location of Survey: between Stevenson Blvd. intersections
Date Taken: 8/24/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 32.0 mph
10-mph Pace Speed: 23-32 mph
% Vehicles in Pace/Above/Below: 80% / 12% / 8%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 2 ('12 = 0, '13 = 1, '14 = 0, '15 = 1, '16 = 0)
Speed Related Accidents: Total = 2 ('12 = 0, '13 = 1, '14 = 0, '15 = 1, '16 = 0)
Accident Rate (accs. per million vehicle miles): 1.51 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.63 mile
Average Daily Traffic: 1,149 ADT
Street Classification: Local
No. of lanes: 2 lanes with center line striping.
Roadway Characteristics: Straight and curved sections forming loop road; Street parking not allowed.
Adjacent Land Use: Light industrial/office park development with driveways serving parking lots.
Other Conditions: Mix of higher speed vehicles and lower speed trucks turning in and out of driveways.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, it is recommended the speed limit be maintained at 35 mph.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

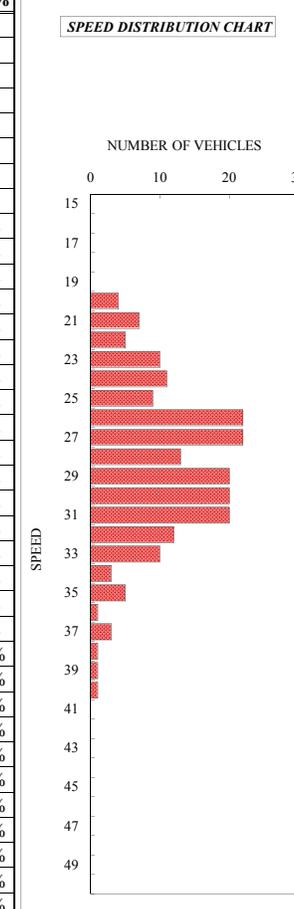
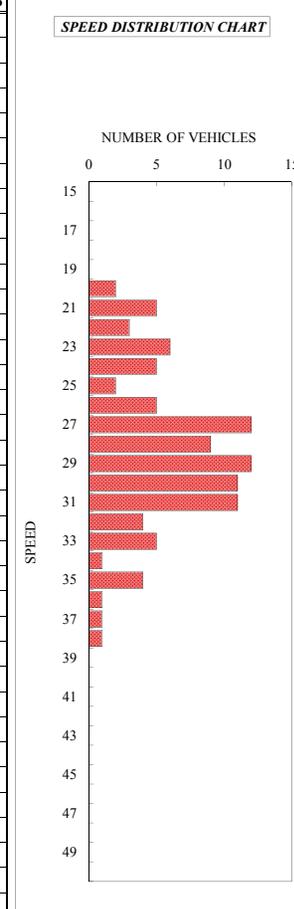
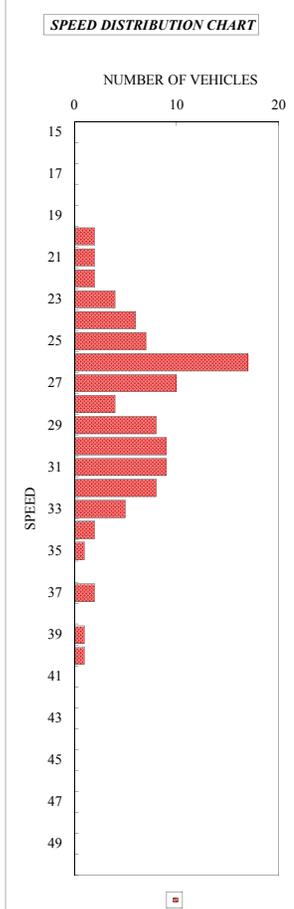
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/24/2017 DAY: THURSDAY TIME: 11:00-1:00PM

16. EUREKA DRIVE LOOP ROAD BETWEEN STEVENSON BOULEVARD

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%									
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%									
20 mph	2	2.0%	2.0%	20 mph	2	2.0%	2.0%	20 mph	4	2.0%	2.0%									
21 mph	2	2.0%	4.0%	21 mph	5	5.0%	7.0%	21 mph	7	3.5%	5.5%									
22 mph	2	2.0%	6.0%	22 mph	3	3.0%	10.0%	22 mph	5	2.5%	8.0%									
23 mph	4	4.0%	10.0%	23 mph	6	6.0%	16.0%	23 mph	10	5.0%	13.0%									
24 mph	6	6.0%	16.0%	24 mph	5	5.0%	21.0%	24 mph	11	5.5%	18.5%									
25 mph	7	7.0%	23.0%	25 mph	2	2.0%	23.0%	25 mph	9	4.5%	23.0%									
26 mph	17	17.0%	40.0%	26 mph	5	5.0%	28.0%	26 mph	22	11.0%	34.0%									
27 mph	10	10.0%	50.0%	27 mph	12	12.0%	40.0%	27 mph	22	11.0%	45.0%									
28 mph	4	4.0%	54.0%	28 mph	9	9.0%	49.0%	28 mph	13	6.5%	51.5%									
29 mph	8	8.0%	62.0%	29 mph	12	12.0%	61.0%	29 mph	20	10.0%	61.5%									
30 mph	9	9.0%	71.0%	30 mph	11	11.0%	72.0%	30 mph	20	10.0%	71.5%									
31 mph	9	9.0%	80.0%	31 mph	11	11.0%	83.0%	31 mph	20	10.0%	81.5%									
32 mph	8	8.0%	88.0%	32 mph	4	4.0%	87.0%	32 mph	12	6.0%	87.5%									
33 mph	5	5.0%	93.0%	33 mph	5	5.0%	92.0%	33 mph	10	5.0%	92.5%									
34 mph	2	2.0%	95.0%	34 mph	1	1.0%	93.0%	34 mph	3	1.5%	94.0%									
35 mph	1	1.0%	96.0%	35 mph	4	4.0%	97.0%	35 mph	5	2.5%	96.5%									
36 mph	0	0.0%	96.0%	36 mph	1	1.0%	98.0%	36 mph	1	0.5%	97.0%									
37 mph	2	2.0%	98.0%	37 mph	1	1.0%	99.0%	37 mph	3	1.5%	98.5%									
38 mph	0	0.0%	98.0%	38 mph	1	1.0%	100.0%	38 mph	1	0.5%	99.0%									
39 mph	1	1.0%	99.0%	39 mph	0	0.0%	100.0%	39 mph	1	0.5%	99.5%									
40 mph	1	1.0%	100.0%	40 mph	0	0.0%	100.0%	40 mph	1	0.5%	100.0%									
41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%									
42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%									
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	28.2	TOTAL:	100	100.0%		AVERAGE SPEED:	28.2	TOTAL:	200	100.0%		AVERAGE SPEED:	28.2			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	23.9	24.0	26.0	27.5	32.0	33.0	SPEEDS:	22.9	23.0	26.0	29.0	32.0	33.0	SPEEDS:	23.0	24.0	26.0	28.0	32.0	33.0
10 MPH PACE SPEED	24-33	NUMBER IN PACE		87	83.0%	83.0%	10 MPH PACE SPEED	23-32	NUMBER IN PACE		77	77.0%	77.0%	10 MPH PACE SPEED	23-32	NUMBER IN PACE		159	79.5%	79.5%
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	98	77	29	4	0	0	TOTAL:	98	77	28	3	0	0	TOTAL:	196	154	57	7	0	0
PERCENTAGE:	98.0%	77.0%	29.0%	4.0%	0.0%	0.0%	PERCENTAGE:	98.0%	77.0%	28.0%	3.0%	0.0%	0.0%	PERCENTAGE:	98.0%	77.0%	28.5%	3.5%	0.0%	0.0%



17. Filbert Street (between Carter Ave. and Enterprise Dr.)

This segment of Filbert Street extends north from Enterprise Drive to Wells Avenue (where the road continues as Carter Avenue to Sycamore Street). The segment is straight from Enterprise Drive to Wells Avenue, then curves as it crosses railroad tracks at Carter Avenue. There are two through lanes separated by a two-way left turn lane. There are striped bicycle lanes and striped shoulder/parking lanes. It is classified as a collector road in the Newark General Plan. The surrounding properties consist of a mix of industrial, warehouse, church, and residential uses. There is also a senior center located near the Enterprise Drive intersection.

Speed Data

There is an existing posted speed limit of 30 mph. There is a northbound speed limit sign located north of Enterprise Drive and a southbound sign south of Sycamore Street (on Carter Avenue). There is also a 25 mph speed limit sign with “Senior Citizen Facility / When Peds are Present” assembly for the northbound direction located south of the Enterprise Drive intersection. The measured 85th-percentile speed was recorded as follows:

<u>Filbert Street:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
Carter Ave. to Enterprise Dr.	30 mph	37.0 mph	30 mph (no change)

Recommendation

Based on the measured 85th percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 30 mph. The combination of higher speed through vehicles and lower speed vehicles turning in and out of driveways, and proximity of residential and senior center uses with associated pedestrian activity, warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 35 mph, resulting in a 30 mph speed limit.

Improvements

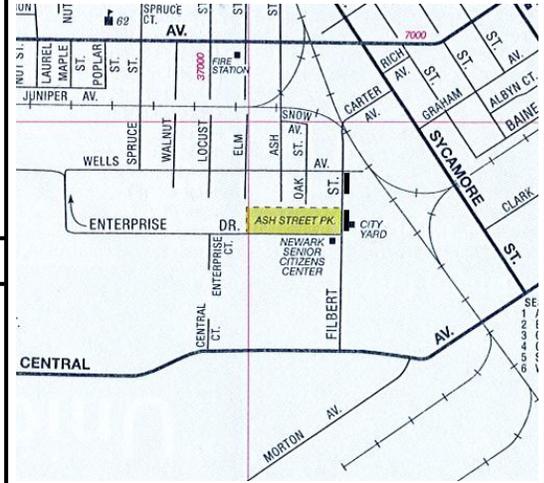
It is recommended that a “25 mph / Senior Citizen Facility / When Peds Are Present” sign assembly be installed for the southbound direction approaching the senior center (similar to the existing northbound assembly).

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **FILBERT STREET**
Limits: **between Carter Avenue and Enterprise Drive**

SPEED DATA

Location of Survey: between Carter Ave. and Enterprise Dr.
Date Taken: 8/17/17
Existing Speed Limit: 30 mph
85th Percentile Speed: 37.0 mph
10-mph Pace Speed: 28-37 mph
% Vehicles in Pace/Above/Below: 78% / 14% / 8%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 3 ('12 = 0, '13 = 0, '14 = 0, '15 = 2, '16 = 1)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 2.23 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.21 mile
Average Daily Traffic: 3,518 ADT
Street Classification: Collector
No. of lanes: 2 lanes with two-way left turn lane.
Roadway Characteristics: Curved and straight sections; striped bicycle and shoulder/parking lanes. Street parking allowed.
Adjacent Land Use: Combination of industrial, warehouse, residential, and church uses.
Other Conditions: Senior center located near Enterprise Drive intersection.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include higher speed through-vehicles and lower speed vehicles turning in and out of driveways, and proximity of residential and senior center uses with associated pedestrian activity, it is recommended an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 35 mph, resulting in a 30 mph speed limit.

Recommended Speed Limit = 30 mph

Existing Speed Limit = 30 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

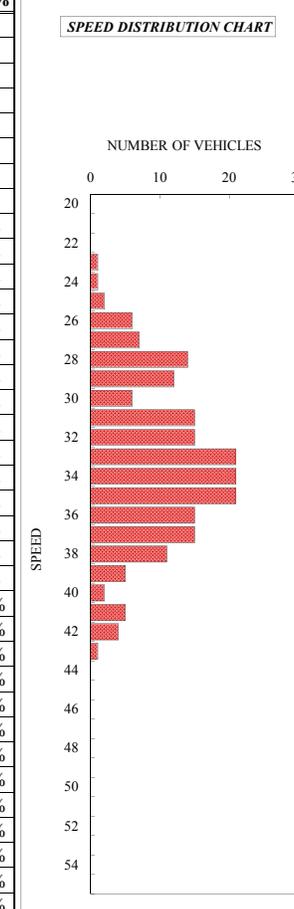
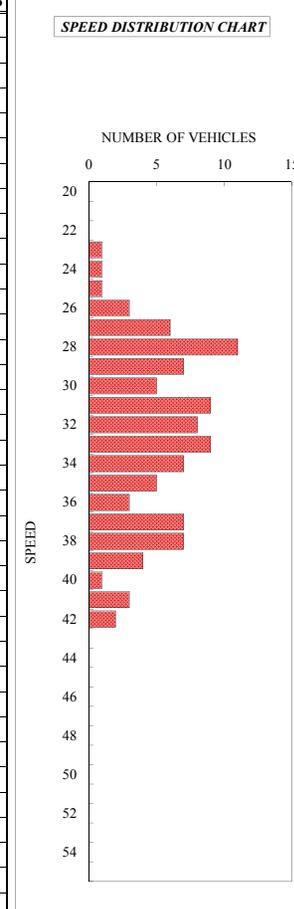
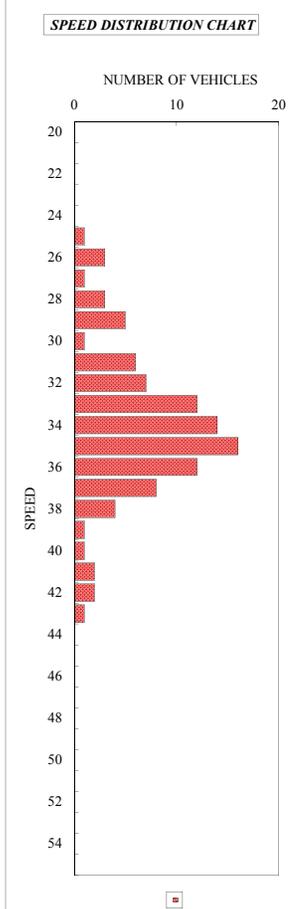
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/17/2017 DAY: THURSDAY TIME: 12:50-3:00PM

17. FILBERT STREET BETWEEN CARTER AVENUE & ENTERPRISE DRIVE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED														
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %											
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%											
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%											
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%											
23 mph	0	0.0%	0.0%	23 mph	1	1.0%	1.0%	23 mph	1	0.5%	0.5%											
24 mph	0	0.0%	0.0%	24 mph	1	1.0%	2.0%	24 mph	1	0.5%	1.0%											
25 mph	1	1.0%	1.0%	25 mph	1	1.0%	3.0%	25 mph	2	1.0%	2.0%											
26 mph	3	3.0%	4.0%	26 mph	3	3.0%	6.0%	26 mph	6	3.0%	5.0%											
27 mph	1	1.0%	5.0%	27 mph	6	6.0%	12.0%	27 mph	7	3.5%	8.5%											
28 mph	3	3.0%	8.0%	28 mph	11	11.0%	23.0%	28 mph	14	7.0%	15.5%											
29 mph	5	5.0%	13.0%	29 mph	7	7.0%	30.0%	29 mph	12	6.0%	21.5%											
30 mph	1	1.0%	14.0%	30 mph	5	5.0%	35.0%	30 mph	6	3.0%	24.5%											
31 mph	6	6.0%	20.0%	31 mph	9	9.0%	44.0%	31 mph	15	7.5%	32.0%											
32 mph	7	7.0%	27.0%	32 mph	8	8.0%	52.0%	32 mph	15	7.5%	39.5%											
33 mph	12	12.0%	39.0%	33 mph	9	9.0%	61.0%	33 mph	21	10.5%	50.0%											
34 mph	14	14.0%	53.0%	34 mph	7	7.0%	68.0%	34 mph	21	10.5%	60.5%											
35 mph	16	16.0%	69.0%	35 mph	5	5.0%	73.0%	35 mph	21	10.5%	71.0%											
36 mph	12	12.0%	81.0%	36 mph	3	3.0%	76.0%	36 mph	15	7.5%	78.5%											
37 mph	8	8.0%	89.0%	37 mph	7	7.0%	83.0%	37 mph	15	7.5%	86.0%											
38 mph	4	4.0%	93.0%	38 mph	7	7.0%	90.0%	38 mph	11	5.5%	91.5%											
39 mph	1	1.0%	94.0%	39 mph	4	4.0%	94.0%	39 mph	5	2.5%	94.0%											
40 mph	1	1.0%	95.0%	40 mph	1	1.0%	95.0%	40 mph	2	1.0%	95.0%											
41 mph	2	2.0%	97.0%	41 mph	3	3.0%	98.0%	41 mph	5	2.5%	97.5%											
42 mph	2	2.0%	99.0%	42 mph	2	2.0%	100.0%	42 mph	4	2.0%	99.5%											
43 mph	1	1.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	1	0.5%	100.0%											
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%											
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%											
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%											
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%											
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%											
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%											
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%											
51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%											
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%											
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%											
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%											
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%											
TOTAL:	100	100.0%		AVERAGE SPEED:	34.0			TOTAL:	100	100.0%		AVERAGE SPEED:	32.5			TOTAL:	200	100.0%		AVERAGE SPEED:	33.3	
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	29.0	31.0	32.0	34.0	37.0	38.0		SPEEDS:	27.0	28.0	29.0	32.0	38.0	38.1		SPEEDS:	28.0	28.0	31.0	33.5	37.0	38.0
10 MPH PACE SPEED	29-38	NUMBER IN PACE		85	PERCENT:	85.0%		10 MPH PACE SPEED	28-37	NUMBER IN PACE		71	PERCENT:	71.0%		10 MPH PACE SPEED	28-37	NUMBER IN PACE		155	PERCENT:	77.5%
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH		SPEED EXCEEDED:	25MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH		SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	99	86	31	5	0	0		TOTAL:	97	65	27	5	0	0		TOTAL:	196	151	58	10	0	0
PERCENTAGE:	99.0%	86.0%	31.0%	5.0%	0.0%	0.0%		PERCENTAGE:	97.0%	65.0%	27.0%	5.0%	0.0%	0.0%		PERCENTAGE:	98.0%	75.5%	29.0%	5.0%	0.0%	0.0%



18. Filbert Street (between Enterprise Dr. and Central Ave.)

This segment of Filbert Street extends north from Central Avenue to Enterprise Drive. The segment is straight with two through lanes separated by yellow centerline striping. Parking is allowed on the east side of the street. It is classified as a collector road in the Newark General Plan. The surrounding properties consist of light industrial/warehouse uses. There is also a senior center located on the north side of the Enterprise Drive intersection.

Speed Data

There is an existing posted speed limit of 35 mph. There is a northbound speed limit sign located north of Central Avenue and a southbound sign south of Enterprise Drive. There is also a 25 mph speed limit sign with “Senior Citizen Facility / When Peds are Present” assembly for the northbound direction located south of the Enterprise Drive intersection. The measured 85th-percentile speed was recorded as follows:

<u>Filbert Street:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Enterprise Dr. to Central Ave.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	35 mph	41.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The combination of higher speed through vehicles and lower speed trucks turning in and out of driveways, and nearby senior center with associated pedestrian activity, warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

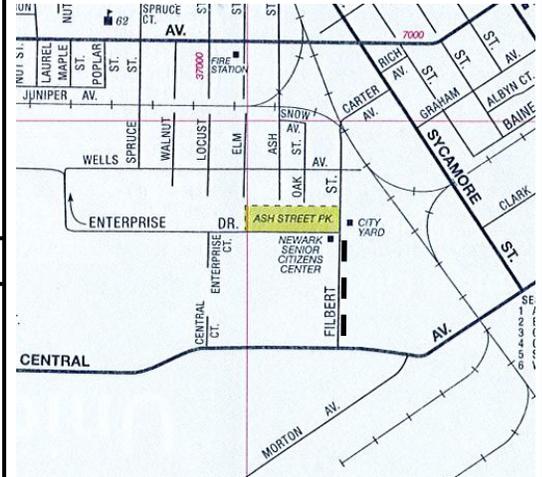
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **FILBERT STREET**
Limits: **between Enterprise Drive and Central Avenue**

SPEED DATA

Location of Survey: between Enterprise Dr. and Central Ave.
Date Taken: 8/17/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 41.0 mph
10-mph Pace Speed: 32-41 mph
% Vehicles in Pace/Above/Below: 74% / 14% / 12%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.00 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.25 mile
Average Daily Traffic: 3,601 ADT
Street Classification: Collector
No. of lanes: 2 lanes with center line striping.
Roadway Characteristics: Straight; street parking allowed on east side.
Adjacent Land Use: Industrial and warehouse uses.
Other Conditions: Senior center located near Enterprise Drive intersection.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include higher speed through-vehicles and lower speed trucks turning in and out of driveways, and nearby senior center with associated pedestrian activity, it is recommended an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

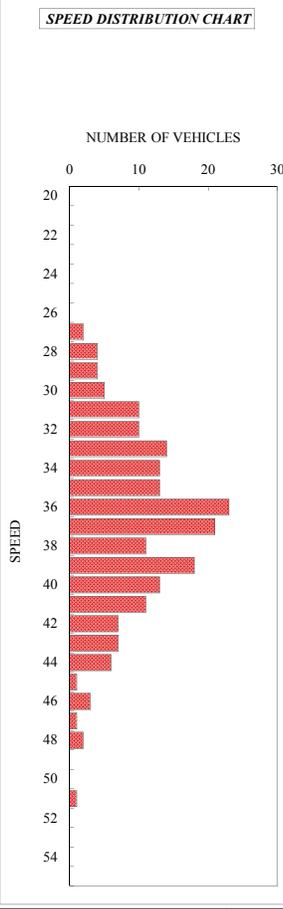
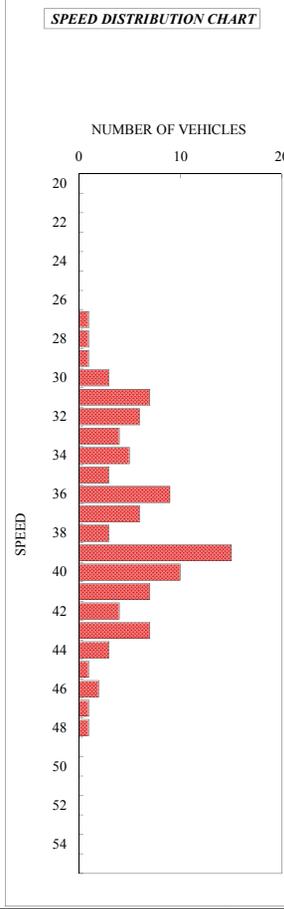
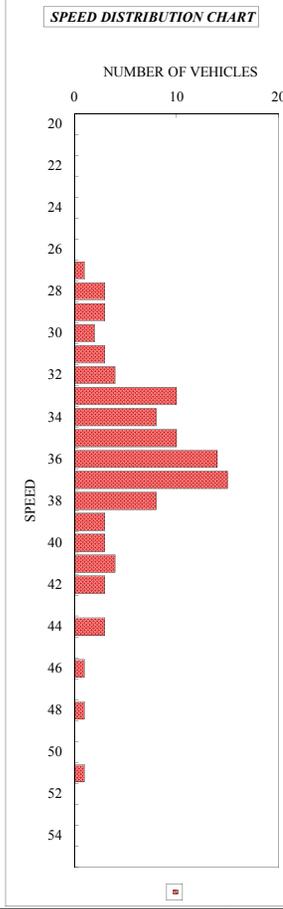
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/17/2017 DAY: THURSDAY TIME: 3:07-4:40PM

18. FILBERT STREET BETWEEN ENTERPRISE DRIVE & CENTRAL AVENUE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED														
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %											
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%											
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%											
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%											
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%											
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%											
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%											
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%											
27 mph	1	1.0%	1.0%	27 mph	1	1.0%	1.0%	27 mph	2	1.0%	1.0%											
28 mph	3	3.0%	4.0%	28 mph	1	1.0%	2.0%	28 mph	4	2.0%	3.0%											
29 mph	3	3.0%	7.0%	29 mph	1	1.0%	3.0%	29 mph	4	2.0%	5.0%											
30 mph	2	2.0%	9.0%	30 mph	3	3.0%	6.0%	30 mph	5	2.5%	7.5%											
31 mph	3	3.0%	12.0%	31 mph	7	7.0%	13.0%	31 mph	10	5.0%	12.5%											
32 mph	4	4.0%	16.0%	32 mph	6	6.0%	19.0%	32 mph	10	5.0%	17.5%											
33 mph	10	10.0%	26.0%	33 mph	4	4.0%	23.0%	33 mph	14	7.0%	24.5%											
34 mph	8	8.0%	34.0%	34 mph	5	5.0%	28.0%	34 mph	13	6.5%	31.0%											
35 mph	10	10.0%	44.0%	35 mph	3	3.0%	31.0%	35 mph	13	6.5%	37.5%											
36 mph	14	14.0%	58.0%	36 mph	9	9.0%	40.0%	36 mph	23	11.5%	49.0%											
37 mph	15	15.0%	73.0%	37 mph	6	6.0%	46.0%	37 mph	21	10.5%	59.5%											
38 mph	8	8.0%	81.0%	38 mph	3	3.0%	49.0%	38 mph	11	5.5%	65.0%											
39 mph	3	3.0%	84.0%	39 mph	15	15.0%	64.0%	39 mph	18	9.0%	74.0%											
40 mph	3	3.0%	87.0%	40 mph	10	10.0%	74.0%	40 mph	13	6.5%	80.5%											
41 mph	4	4.0%	91.0%	41 mph	7	7.0%	81.0%	41 mph	11	5.5%	86.0%											
42 mph	3	3.0%	94.0%	42 mph	4	4.0%	85.0%	42 mph	7	3.5%	89.5%											
43 mph	0	0.0%	94.0%	43 mph	7	7.0%	92.0%	43 mph	7	3.5%	93.0%											
44 mph	3	3.0%	97.0%	44 mph	3	3.0%	95.0%	44 mph	6	3.0%	96.0%											
45 mph	0	0.0%	97.0%	45 mph	1	1.0%	96.0%	45 mph	1	0.5%	96.5%											
46 mph	1	1.0%	98.0%	46 mph	2	2.0%	98.0%	46 mph	3	1.5%	98.0%											
47 mph	0	0.0%	98.0%	47 mph	1	1.0%	99.0%	47 mph	1	0.5%	98.5%											
48 mph	1	1.0%	99.0%	48 mph	1	1.0%	100.0%	48 mph	2	1.0%	99.5%											
49 mph	0	0.0%	99.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	99.5%											
50 mph	0	0.0%	99.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	99.5%											
51 mph	1	1.0%	100.0%	51 mph	0	0.0%	100.0%	51 mph	1	0.5%	100.0%											
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%											
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%											
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%											
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%											
TOTAL:	100	100.0%		AVERAGE SPEED:	36.0			TOTAL:	100	100.0%		AVERAGE SPEED:	37.6			TOTAL:	200	100.0%		AVERAGE SPEED:	36.8	
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	31.0	32.0	33.0	36.0	40.0	41.0		SPEEDS:	31.0	32.0	34.0	39.0	42.2	43.0		SPEEDS:	31.0	32.0	34.0	37.0	41.0	43.0
10 MPH PACE SPEED	32-41	NUMBER IN PACE		79	PERCENT:	79.0%		10 MPH PACE SPEED	34-43	NUMBER IN PACE		69	PERCENT:	69.0%		10 MPH PACE SPEED	32-41	NUMBER IN PACE		147	PERCENT:	73.5%
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH		SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH		SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	100	91	56	13	3	1		TOTAL:	100	94	69	26	4	0		TOTAL:	200	185	125	39	7	1
PERCENTAGE:	100.0%	91.0%	56.0%	13.0%	3.0%	1.0%		PERCENTAGE:	100.0%	94.0%	69.0%	26.0%	4.0%	0.0%		PERCENTAGE:	100.0%	92.5%	62.5%	19.5%	3.5%	0.5%



19. Fircrest Street (between Jarvis Ave. and Gateway Blvd.)

Fircrest Street is a relatively short street that extends from Jarvis Avenue to Gateway Boulevard. It is a two lane road with centerline striping that is straight from Jarvis Avenue to Overlake Place (then curves west and continues as Gateway Boulevard). Parking is not allowed. It is classified as a collector road in the Newark General Plan. There are light industrial businesses on both sides with driveways serving parking lots.

Speed Data

There is an existing posted speed limit of 35 mph. There is a northbound speed limit sign located north of Jarvis Avenue and a southbound sign located south of Gateway Boulevard. The measured 85th-percentile speed was recorded as follows:

<u>Fircrest Street:</u>	<u>Speed Limit</u>	<u>85th % Speed</u>	<u>Recommended Speed Limit</u>
Jarvis Ave. to Gateway Blvd.	35 mph	36.0 mph	35 mph (no change)

Recommendation

Based on the measured speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph.

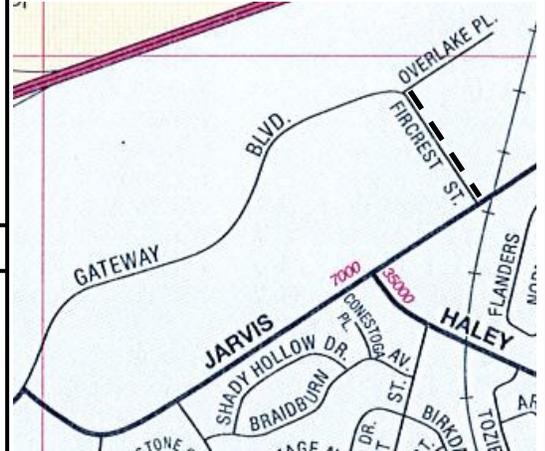
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **FIRCREST STREET**
Limits: **between Jarvis Avenue and Gateway Boulevard**

SPEED DATA

Location of Survey: between Jarvis Ave. and Gateway Blvd.
Date Taken: 8/24/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 36.0 mph
10-mph Pace Speed: 26-35 mph
% Vehicles in Pace/Above/Below: 79% / 17% / 4%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.00 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.17 mile
Average Daily Traffic: 2,051 ADT
Street Classification: Collector
No. of lanes: 2 lanes with center line striping.
Roadway Characteristics: Straight until curve at Gateway Boulevard; street parking not allowed.
Adjacent Land Use: Light Industrial with driveways serving parking lots.
Other Conditions: Trucks turning in and out of driveways.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, it is recommended the speed limit be maintained at 35 mph.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

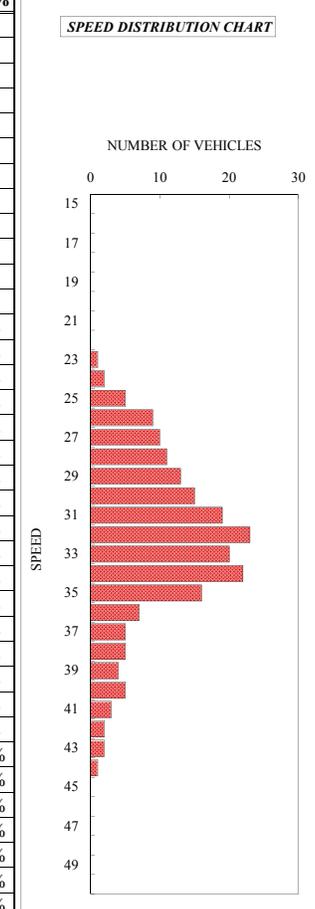
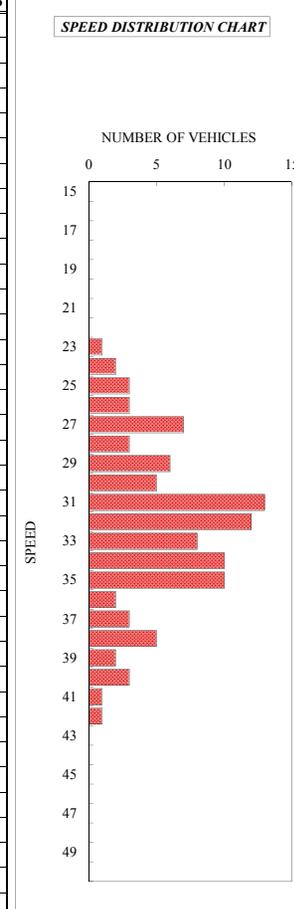
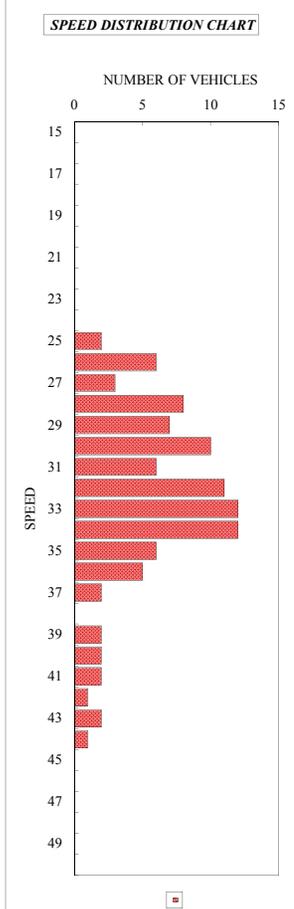
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/24/2017 DAY: THURSDAY TIME: 10:30-11:45AM

19. FIRECREST STREET BETWEEN JARVIS AVENUE & GATEWAY BOULEVARD

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED							
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %				
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%				
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%				
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%				
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%				
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%				
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%				
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%				
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%				
23 mph	0	0.0%	0.0%	23 mph	1	1.0%	1.0%	23 mph	1	0.5%	0.5%				
24 mph	0	0.0%	0.0%	24 mph	2	2.0%	3.0%	24 mph	2	1.0%	1.5%				
25 mph	2	2.0%	2.0%	25 mph	3	3.0%	6.0%	25 mph	5	2.5%	4.0%				
26 mph	6	6.0%	8.0%	26 mph	3	3.0%	9.0%	26 mph	9	4.5%	8.5%				
27 mph	3	3.0%	11.0%	27 mph	7	7.0%	16.0%	27 mph	10	5.0%	13.5%				
28 mph	8	8.0%	19.0%	28 mph	3	3.0%	19.0%	28 mph	11	5.5%	19.0%				
29 mph	7	7.0%	26.0%	29 mph	6	6.0%	25.0%	29 mph	13	6.5%	25.5%				
30 mph	10	10.0%	36.0%	30 mph	5	5.0%	30.0%	30 mph	15	7.5%	33.0%				
31 mph	6	6.0%	42.0%	31 mph	13	13.0%	43.0%	31 mph	19	9.5%	42.5%				
32 mph	11	11.0%	53.0%	32 mph	12	12.0%	55.0%	32 mph	23	11.5%	54.0%				
33 mph	12	12.0%	65.0%	33 mph	8	8.0%	63.0%	33 mph	20	10.0%	64.0%				
34 mph	12	12.0%	77.0%	34 mph	10	10.0%	73.0%	34 mph	22	11.0%	75.0%				
35 mph	6	6.0%	83.0%	35 mph	10	10.0%	83.0%	35 mph	16	8.0%	83.0%				
36 mph	5	5.0%	88.0%	36 mph	2	2.0%	85.0%	36 mph	7	3.5%	86.5%				
37 mph	2	2.0%	90.0%	37 mph	3	3.0%	88.0%	37 mph	5	2.5%	89.0%				
38 mph	0	0.0%	90.0%	38 mph	5	5.0%	93.0%	38 mph	5	2.5%	91.5%				
39 mph	2	2.0%	92.0%	39 mph	2	2.0%	95.0%	39 mph	4	2.0%	93.5%				
40 mph	2	2.0%	94.0%	40 mph	3	3.0%	98.0%	40 mph	5	2.5%	96.0%				
41 mph	2	2.0%	96.0%	41 mph	1	1.0%	99.0%	41 mph	3	1.5%	97.5%				
42 mph	1	1.0%	97.0%	42 mph	1	1.0%	100.0%	42 mph	2	1.0%	98.5%				
43 mph	2	2.0%	99.0%	43 mph	0	0.0%	100.0%	43 mph	2	1.0%	99.5%				
44 mph	1	1.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	1	0.5%	100.0%				
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%				
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%				
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%				
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%				
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%				
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%				
TOTAL:	100	100.0%		TOTAL:	100	100.0%		TOTAL:	200	100.0%					
AVERAGE SPEED:				32.3				AVERAGE SPEED:				32.2			
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%	
SPEEDS:	27.0	28.0	29.0	32.0	36.0	37.2		SPEEDS:	27.0	27.0	29.8	32.0	36.2	38.0	
10 MPH PACE SPEED	26-35	NUMBER IN PACE		81	PERCENT:	81.0%		10 MPH PACE SPEED	26-35	NUMBER IN PACE		77	PERCENT:	77.0%	
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH		SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	
TOTAL:	100	98	64	17	6	0		TOTAL:	100	94	70	17	2	0	
PERCENTAGE:	100.0%	98.0%	64.0%	17.0%	6.0%	0.0%		PERCENTAGE:	100.0%	94.0%	70.0%	17.0%	2.0%	0.0%	



20. Gateway Boulevard (between Fircrest St. and Jarvis Ave.)

This segment of Gateway Boulevard begins at Fircrest Street where it curves west then continues in a broad S-shaped curve to Jarvis Avenue. It consists of two through lanes separated by raised center medians and centerline striping. Street parking is not allowed. It is classified as a collector road in the Newark General Plan. The segment extends through a business park with driveways on both sides serving parking lots.

Speed Data

There is an existing posted speed limit of 35 mph. There are northbound and southbound speed limit signs located near each end of the segment. The measured 85th-percentile speed was recorded as follows:

<u>Gateway Boulevard:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Fircrest St. to Jarvis Ave.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	35 mph	36.2 mph	35 mph (no change)

Recommendation

Based on the measured speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph.

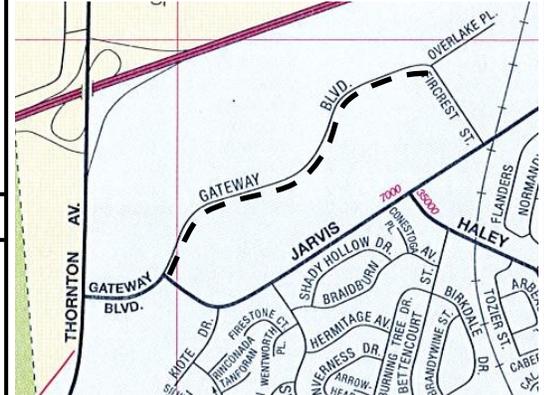
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: GATEWAY BOULEVARD
Limits: between Fircrest Street and Jarvis Avenue

SPEED DATA

Location of Survey: between 7373 and 7677 Gateway Blvd.
Date Taken: 8/24/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 36.2 mph
10-mph Pace Speed: 28-37 mph
% Vehicles in Pace/Above/Below: 75% / 10% / 15%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 3 ('12 = 2, '13 = 0, '14 = 0, '15 = 0, '16 = 1)
Speed Related Accidents: Total = 1 ('12 = 1, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 3.07 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.69 mile
Average Daily Traffic: 775 ADT
Street Classification: Collector
No. of lanes: 2 lanes with raised medians and center line striping.
Roadway Characteristics: Broad curves through the segment; street parking not allowed.
Adjacent Land Use: Business park and light industrial/warehouse with driveways serving parking lots.
Other Conditions: Large trucks turning in and out of some driveways.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, it is recommended the speed limit be maintained at 35 mph.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

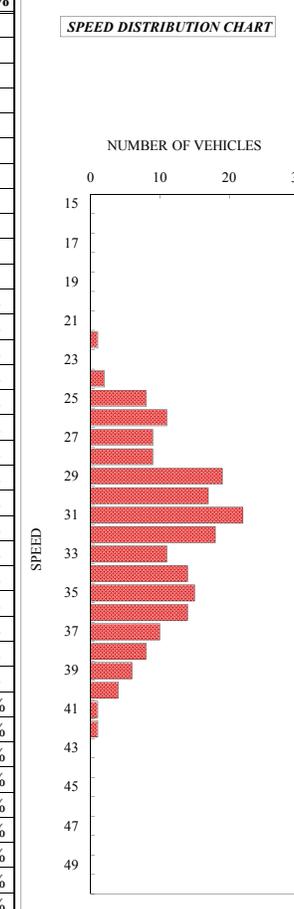
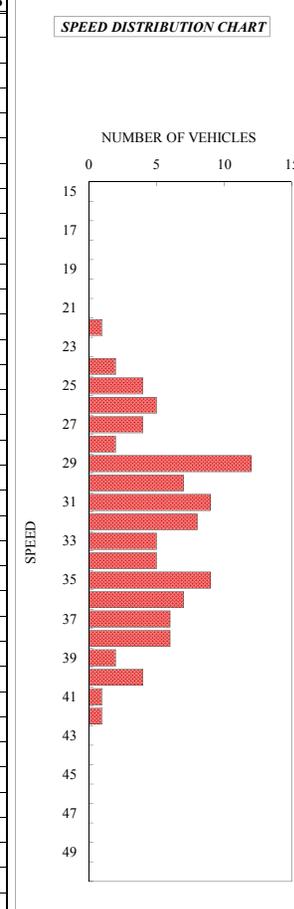
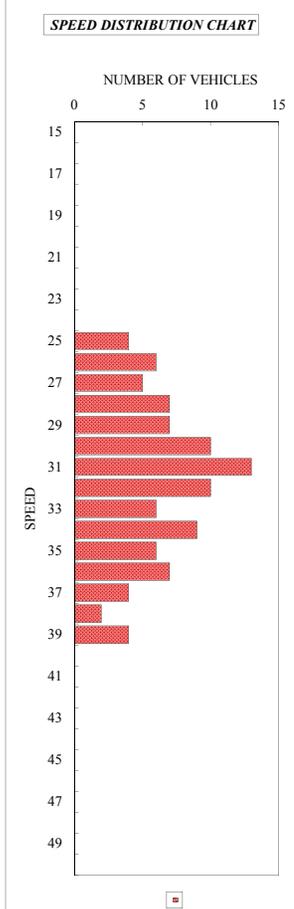
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/24/2017 DAY: THURSDAY TIME: 9:00-10:00AM 11:50-12:30PM

20. GATEWAY BOULEVARD BETWEEN FIRCREST STREET & JARVIS AVENUE

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED						
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %			
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%			
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%			
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%			
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%			
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%			
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%			
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%			
22 mph	0	0.0%	0.0%	22 mph	1	1.0%	1.0%	22 mph	1	0.5%	0.5%			
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	1.0%	23 mph	0	0.0%	0.5%			
24 mph	0	0.0%	0.0%	24 mph	2	2.0%	3.0%	24 mph	2	1.0%	1.5%			
25 mph	4	4.0%	4.0%	25 mph	4	4.0%	7.0%	25 mph	8	4.0%	5.5%			
26 mph	6	6.0%	10.0%	26 mph	5	5.0%	12.0%	26 mph	11	5.5%	11.0%			
27 mph	5	5.0%	15.0%	27 mph	4	4.0%	16.0%	27 mph	9	4.5%	15.5%			
28 mph	7	7.0%	22.0%	28 mph	2	2.0%	18.0%	28 mph	9	4.5%	20.0%			
29 mph	7	7.0%	29.0%	29 mph	12	12.0%	30.0%	29 mph	19	9.5%	29.5%			
30 mph	10	10.0%	39.0%	30 mph	7	7.0%	37.0%	30 mph	17	8.5%	38.0%			
31 mph	13	13.0%	52.0%	31 mph	9	9.0%	46.0%	31 mph	22	11.0%	49.0%			
32 mph	10	10.0%	62.0%	32 mph	8	8.0%	54.0%	32 mph	18	9.0%	58.0%			
33 mph	6	6.0%	68.0%	33 mph	5	5.0%	59.0%	33 mph	11	5.5%	63.5%			
34 mph	9	9.0%	77.0%	34 mph	5	5.0%	64.0%	34 mph	14	7.0%	70.5%			
35 mph	6	6.0%	83.0%	35 mph	9	9.0%	73.0%	35 mph	15	7.5%	78.0%			
36 mph	7	7.0%	90.0%	36 mph	7	7.0%	80.0%	36 mph	14	7.0%	85.0%			
37 mph	4	4.0%	94.0%	37 mph	6	6.0%	86.0%	37 mph	10	5.0%	90.0%			
38 mph	2	2.0%	96.0%	38 mph	6	6.0%	92.0%	38 mph	8	4.0%	94.0%			
39 mph	4	4.0%	100.0%	39 mph	2	2.0%	94.0%	39 mph	6	3.0%	97.0%			
40 mph	0	0.0%	100.0%	40 mph	4	4.0%	98.0%	40 mph	4	2.0%	99.0%			
41 mph	0	0.0%	100.0%	41 mph	1	1.0%	99.0%	41 mph	1	0.5%	99.5%			
42 mph	0	0.0%	100.0%	42 mph	1	1.0%	100.0%	42 mph	1	0.5%	100.0%			
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%			
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%			
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%			
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%			
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%			
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%			
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%			
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%			
TOTAL:	100	100.0%		TOTAL:	100	100.0%		TOTAL:	200	100.0%				
AVERAGE SPEED: 31.6				AVERAGE SPEED: 32.3				AVERAGE SPEED: 31.9						
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	26.9	27.9	29.0	31.0	36.0	36.1		SPEEDS:	26.0	27.0	29.0	32.0	37.0	38.0
10 MPH PACE SPEED	27-36	NUMBER IN PACE		80	PERCENT:	80.0%		10 MPH PACE SPEED	29-38	NUMBER IN PACE		74	PERCENT:	74.0%
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH		SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	100	96	61	17	0	0		TOTAL:	100	93	63	27	2	0
PERCENTAGE:	100.0%	96.0%	61.0%	17.0%	0.0%	0.0%		PERCENTAGE:	100.0%	93.0%	63.0%	27.0%	2.0%	0.0%



21. Gateway Boulevard (between Jarvis Ave. and Thornton Ave.)

This segment of Gateway Boulevard extends in a primarily east-west direction from Jarvis Avenue to Thornton Avenue. The segment is curved and consists of two westbound lanes and three eastbound lanes separated by a raised center median. It is a relatively short segment with signalized traffic controls at the intersections at both ends of the segment. There are striped bicycle/shoulder lanes. It is classified as an arterial road in the Newark General Plan. The segment carries through trips and is bordered by a hotel on the south side.

Speed Data

There is an existing posted speed limit of 35 mph. There is a westbound sign located near Jarvis Avenue and an eastbound sign near Thornton Avenue. The measured 85th-percentile speed was recorded as follows:

<u>Gateway Boulevard:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
Jarvis Ave. to Thornton Ave.	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	35 mph	38.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The short length combined with stopped and queued vehicles at the signalized intersections warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

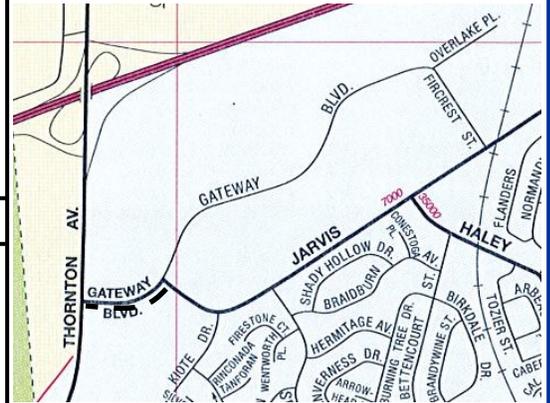
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: GATEWAY BOULEVARD
Limits: between Jarvis Avenue and Thornton Avenue

SPEED DATA

Location of Survey: between Jarvis Ave. and Thornton Ave.
Date Taken: 8/22/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 38.0 mph
10-mph Pace Speed: 28-37 mph
% Vehicles in Pace/Above/Below: 78% / 15% / 7%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 3 ('12 = 1, '13 = 0, '14 = 0, '15 = 2, '16 = 0)
Speed Related Accidents: Total = 3 ('12 = 1, '13 = 0, '14 = 0, '15 = 2, '16 = 0)
Accident Rate (accs. per million vehicle miles): 1.34 a/mvm
Statewide Average Rate: 4.74 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.16 mile
Average Daily Traffic: 7,671 ADT
Street Classification: Arterial
No. of lanes: 5 lanes (2 westbound and 3 eastbound) with raised median.
Roadway Characteristics: Curved through the segment; striped bicycle lanes; street parking not allowed.
Adjacent Land Use: Hotel on south side.
Other Conditions: Short segment with signalized controls at the intersections at each end of the segment.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include horizontal curve through the segment and signalized controls with stopped and queued vehicles at each end of the segment, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

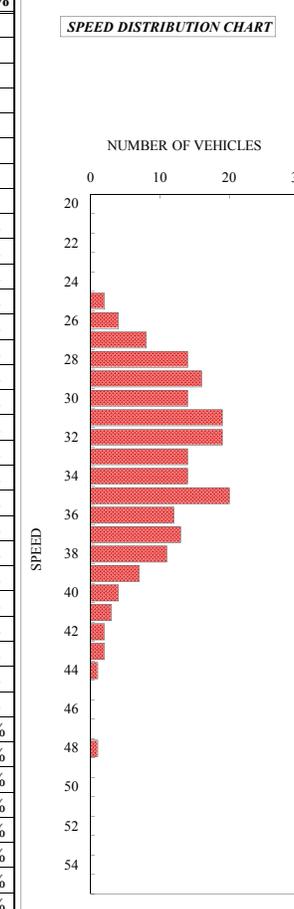
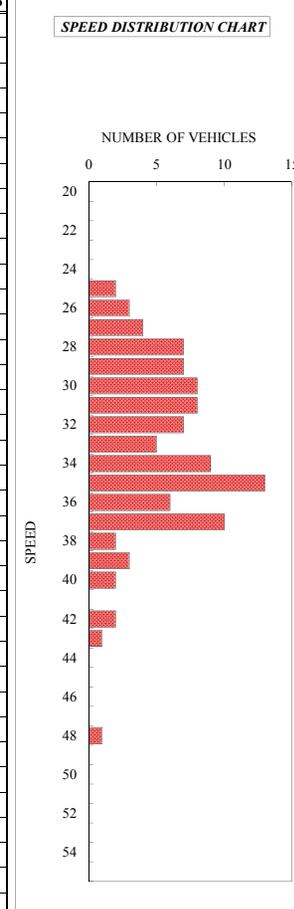
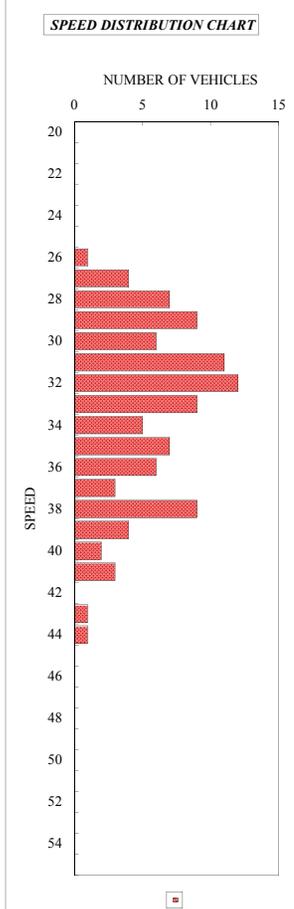
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/22/2017 DAY: TUESDAY TIME: 10:10-11:05AM

21. GATEWAY BOULEVARD BETWEEN JARVIS AVENUE & THORNTON AVENUE

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%									
25 mph	0	0.0%	0.0%	25 mph	2	2.0%	2.0%	25 mph	2	1.0%	1.0%									
26 mph	1	1.0%	1.0%	26 mph	3	3.0%	5.0%	26 mph	4	2.0%	3.0%									
27 mph	4	4.0%	5.0%	27 mph	4	4.0%	9.0%	27 mph	8	4.0%	7.0%									
28 mph	7	7.0%	12.0%	28 mph	7	7.0%	16.0%	28 mph	14	7.0%	14.0%									
29 mph	9	9.0%	21.0%	29 mph	7	7.0%	23.0%	29 mph	16	8.0%	22.0%									
30 mph	6	6.0%	27.0%	30 mph	8	8.0%	31.0%	30 mph	14	7.0%	29.0%									
31 mph	11	11.0%	38.0%	31 mph	8	8.0%	39.0%	31 mph	19	9.5%	38.5%									
32 mph	12	12.0%	50.0%	32 mph	7	7.0%	46.0%	32 mph	19	9.5%	48.0%									
33 mph	9	9.0%	59.0%	33 mph	5	5.0%	51.0%	33 mph	14	7.0%	55.0%									
34 mph	5	5.0%	64.0%	34 mph	9	9.0%	60.0%	34 mph	14	7.0%	62.0%									
35 mph	7	7.0%	71.0%	35 mph	13	13.0%	73.0%	35 mph	20	10.0%	72.0%									
36 mph	6	6.0%	77.0%	36 mph	6	6.0%	79.0%	36 mph	12	6.0%	78.0%									
37 mph	3	3.0%	80.0%	37 mph	10	10.0%	89.0%	37 mph	13	6.5%	84.5%									
38 mph	9	9.0%	89.0%	38 mph	2	2.0%	91.0%	38 mph	11	5.5%	90.0%									
39 mph	4	4.0%	93.0%	39 mph	3	3.0%	94.0%	39 mph	7	3.5%	93.5%									
40 mph	2	2.0%	95.0%	40 mph	2	2.0%	96.0%	40 mph	4	2.0%	95.5%									
41 mph	3	3.0%	98.0%	41 mph	0	0.0%	96.0%	41 mph	3	1.5%	97.0%									
42 mph	0	0.0%	98.0%	42 mph	2	2.0%	98.0%	42 mph	2	1.0%	98.0%									
43 mph	1	1.0%	99.0%	43 mph	1	1.0%	99.0%	43 mph	2	1.0%	99.0%									
44 mph	1	1.0%	100.0%	44 mph	0	0.0%	99.0%	44 mph	1	0.5%	99.5%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	99.0%	45 mph	0	0.0%	99.5%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	99.0%	46 mph	0	0.0%	99.5%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	99.0%	47 mph	0	0.0%	99.5%									
48 mph	0	0.0%	100.0%	48 mph	1	1.0%	100.0%	48 mph	1	0.5%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%									
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%									
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%									
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%									
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	33.2	TOTAL:	100	100.0%		AVERAGE SPEED:	33.1	TOTAL:	200	100.0%		AVERAGE SPEED:	33.2			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	28.0	29.0	30.0	32.5	38.0	39.0	SPEEDS:	28.0	28.0	30.0	33.0	37.0	38.0	SPEEDS:	28.0	29.0	30.0	33.0	38.0	38.1
10 MPH PACE SPEED	29-38	NUMBER IN PACE	77	PERCENT:	77.0%	10 MPH PACE SPEED	28-37	NUMBER IN PACE:	80	PERCENT:	80.0%	10 MPH PACE SPEED	28-37	NUMBER IN PACE:	155	PERCENT:	77.5%			
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	100	73	29	5	0	0	TOTAL:	98	69	27	4	1	0	TOTAL:	198	142	56	9	1	0
PERCENTAGE:	100.0%	73.0%	29.0%	5.0%	0.0%	0.0%	PERCENTAGE:	98.0%	69.0%	27.0%	4.0%	1.0%	0.0%	PERCENTAGE:	99.0%	71.0%	28.0%	4.5%	0.5%	0.0%



22. Haley Street (between Jarvis Ave. and Mayhews Landing Rd.)

This segment of Haley Street extends south from Jarvis Avenue then curves east to Mirabeau Drive then curves south again to Mayhews Landing Road (where it continues as Sycamore Street). It consists of two through lanes separated by yellow centerline striping or two-way left turn lanes. There are striped bicycle lanes and shoulder/parking lanes south of Cedar Boulevard. It is classified as a collector road in the Newark General Plan. The segment extends through a residential area with direct driveway access and also carries through-trips. There are schools and a community park to the east and there are yellow school crosswalks striped at several intersections.

Speed Data

There is an existing posted speed limit of 30 mph. There are southbound signs located near Jarvis Avenue and Cabernet Avenue. There is a northbound sign located near Mayhews Landing Road. The measured 85th-percentile speed was recorded as follows:

<u>Haley Street:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
Jarvis Ave. to Mayhews Landing Rd.	30 mph	34.0 mph	30 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 30 mph. The road is in a residential area and the unit density meets the standard for consideration in setting the speed limit (CVC Section 627). Other factors include direct residential access with traffic turning in and backing out of driveways, street parking activity, and proximity of school and park with associated pedestrian and bicycle activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 35 mph be implemented, resulting in a 30 mph speed limit.

Improvements

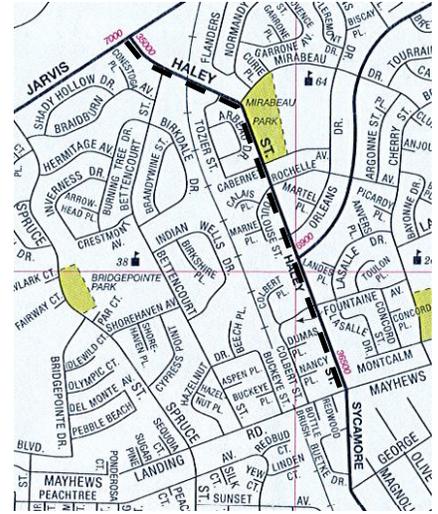
Consideration could be given to installing a northbound speed limit sign near Cabernet Avenue (in the vicinity of an existing southbound speed limit sign).

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **HALEY STREET**
Limits: **between Jarvis Avenue and Mayhews Landing Road**

SPEED DATA

Location of Survey: between Mirabeau Dr. and Cabernet Ave.
Date Taken: 8/22/17
Existing Speed Limit: 30 mph
85th Percentile Speed: 34.0 mph
10-mph Pace Speed: 25-34 mph
% Vehicles in Pace/Above/Below: 81% / 12% / 7%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 6 ('12 = 2, '13 = 1, '14 = 1, '15 = 1, '16 = 1)
Speed Related Accidents: Total = 3 ('12 = 1, '13 = 0, '14 = 0, '15 = 1, '16 = 1)
Accident Rate (accs. per million vehicle miles): 0.57 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.95 mile
Average Daily Traffic: 6,125 ADT
Street Classification: Collector
No. of lanes: 2 lanes with center line striping and two-way left turn lanes.
Roadway Characteristics: Curved sections north of Mirabeau Drive and straight south of Mirabeau Drive; striped bicycle lanes and shoulder/parking lanes south of Cedar Boulevard; street parking allowed.
Adjacent Land Use: Residential with direct driveway access.
Other Conditions: Nearby community park and schools; school crosswalks at nearby intersections with associated pedestrian and bicycle activity.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential area with the residential unit density meeting the standard for consideration in setting the speed limit (CVC Section 627); residential driveways with traffic turning in and backing out; and nearby schools and park, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 35 mph, resulting in a 30 mph speed limit.

Recommended Speed Limit = 30 mph

Existing Speed Limit = 30 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

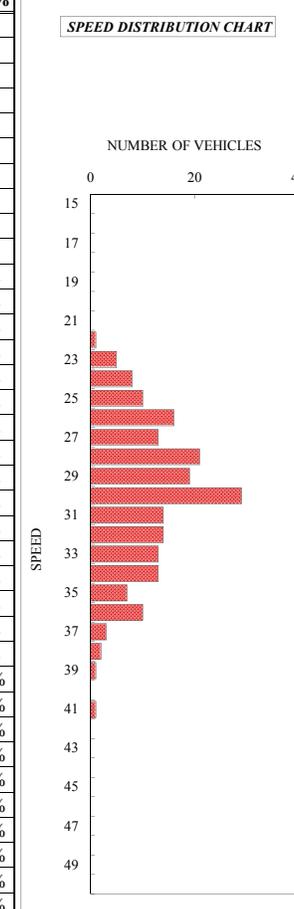
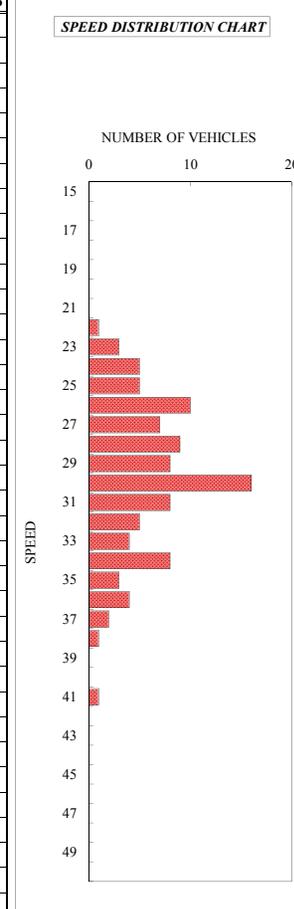
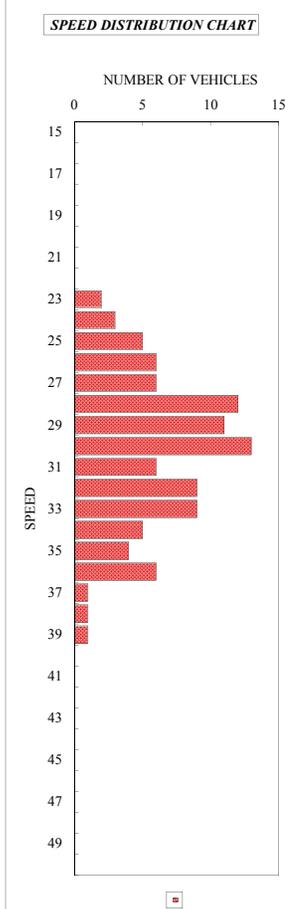
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/22/2017 DAY: TUESDAY TIME: 1:15-3:05PM

22. HALEY STREET BETWEEN JARVIS AVENUE & MAYHEWS LANDING ROAD

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%									
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	1	1.0%	1.0%	22 mph	1	0.5%	0.5%									
23 mph	2	2.0%	2.0%	23 mph	3	3.0%	4.0%	23 mph	5	2.5%	3.0%									
24 mph	3	3.0%	5.0%	24 mph	5	5.0%	9.0%	24 mph	8	4.0%	7.0%									
25 mph	5	5.0%	10.0%	25 mph	5	5.0%	14.0%	25 mph	10	5.0%	12.0%									
26 mph	6	6.0%	16.0%	26 mph	10	10.0%	24.0%	26 mph	16	8.0%	20.0%									
27 mph	6	6.0%	22.0%	27 mph	7	7.0%	31.0%	27 mph	13	6.5%	26.5%									
28 mph	12	12.0%	34.0%	28 mph	9	9.0%	40.0%	28 mph	21	10.5%	37.0%									
29 mph	11	11.0%	45.0%	29 mph	8	8.0%	48.0%	29 mph	19	9.5%	46.5%									
30 mph	13	13.0%	58.0%	30 mph	16	16.0%	64.0%	30 mph	29	14.5%	61.0%									
31 mph	6	6.0%	64.0%	31 mph	8	8.0%	72.0%	31 mph	14	7.0%	68.0%									
32 mph	9	9.0%	73.0%	32 mph	5	5.0%	77.0%	32 mph	14	7.0%	75.0%									
33 mph	9	9.0%	82.0%	33 mph	4	4.0%	81.0%	33 mph	13	6.5%	81.5%									
34 mph	5	5.0%	87.0%	34 mph	8	8.0%	89.0%	34 mph	13	6.5%	88.0%									
35 mph	4	4.0%	91.0%	35 mph	3	3.0%	92.0%	35 mph	7	3.5%	91.5%									
36 mph	6	6.0%	97.0%	36 mph	4	4.0%	96.0%	36 mph	10	5.0%	96.5%									
37 mph	1	1.0%	98.0%	37 mph	2	2.0%	98.0%	37 mph	3	1.5%	98.0%									
38 mph	1	1.0%	99.0%	38 mph	1	1.0%	99.0%	38 mph	2	1.0%	99.0%									
39 mph	1	1.0%	100.0%	39 mph	0	0.0%	99.0%	39 mph	1	0.5%	99.5%									
40 mph	0	0.0%	100.0%	40 mph	0	0.0%	99.0%	40 mph	0	0.0%	99.5%									
41 mph	0	0.0%	100.0%	41 mph	1	1.0%	100.0%	41 mph	1	0.5%	100.0%									
42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%									
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	30.2	TOTAL:	100	100.0%		AVERAGE SPEED:	29.6	TOTAL:	200	100.0%		AVERAGE SPEED:	29.9			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	25.9	26.0	28.0	30.0	34.0	35.0	SPEEDS:	25.0	26.0	27.0	30.0	34.0	35.0	SPEEDS:	25.0	26.0	27.0	30.0	34.0	35.0
10 MPH PACE SPEED	25-34	NUMBER IN PACE	82	PERCENT:	82.0%	10 MPH PACE SPEED	25-34	NUMBER IN PACE	80	PERCENT:	80.0%	10 MPH PACE SPEED	25-34	NUMBER IN PACE	162	PERCENT:	81.0%			
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	100	90	42	9	0	0	TOTAL:	100	86	36	8	1	0	TOTAL:	200	176	78	17	1	0
PERCENTAGE:	100.0%	90.0%	42.0%	9.0%	0.0%	0.0%	PERCENTAGE:	100.0%	86.0%	36.0%	8.0%	1.0%	0.0%	PERCENTAGE:	100.0%	88.0%	39.0%	8.5%	0.5%	0.0%



23. Jarvis Avenue (between Lake Blvd. and Lido Blvd.)

This segment of Jarvis Avenue is oriented in a primarily east-west direction between Lake Boulevard and Lido Boulevard. It consists of four lanes separated by raised center medians for most of the segment, except for a short section at the east end between Cardiff Street and Lake Boulevard where it narrows to two lanes. There are striped bicycle lanes. Street parking is not allowed. It is classified as an arterial road in the Newark General Plan. The segment carries through trips as well as trips to/from residential areas to the south and retail areas on the north side.

Speed Data

There is an existing posted speed limit of 35 mph. There are southbound signs located south of Lake Boulevard and Newark Boulevard. There are northbound signs located north of Lido Boulevard and Newark Avenue. The measured 85th-percentile speed was recorded as follows:

<u>Jarvis Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Lake Blvd. to Lido Blvd.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	35 mph	42.0 mph	35 mph (no change)

Recommendation

Based on the measured speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The combination of higher speed through-vehicles and lower speed vehicles turning in and out of driveways, warrants implementation of an optional 5 mph reduction from the nearest 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Improvements

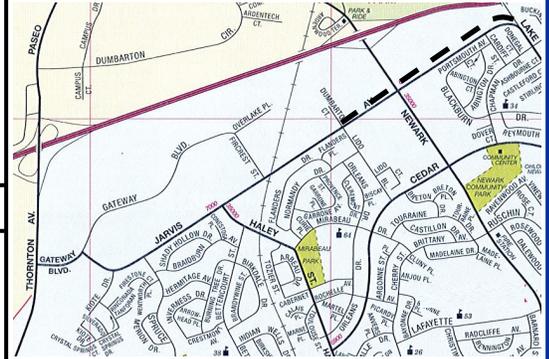
There is a westbound speed limit sign located west of Newark Boulevard that is partially obstructed by foliage.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: JARVIS AVENUE
Limits: between Lake Boulevard and Lido Boulevard

SPEED DATA

Location of Survey: between Newark Blvd. and Cardiff St.
Date Taken: 8/16/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 42.0 mph
10-mph Pace Speed: 32-41 mph
% Vehicles in Pace/Above/Below: 74% / 17% / 9%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 17 ('12 = 5, '13 = 2, '14 = 7, '15 = 1, '16 = 2)
Speed Related Accidents: Total = 2 ('12 = 0, '13 = 0, '14 = 1, '15 = 0, '16 = 1)
Accident Rate (accs. per million vehicle miles): 0.88 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.70 mile
Average Daily Traffic: 15,195 ADT
Street Classification: Arterial
No. of lanes: 4 lanes with center medians west of Cardiff Street; 2 lanes east of Cardiff Street.
Roadway Characteristics: Mostly straight, with horizontal curve between Cardiff Street and Lake Boulevard; striped bicycle lanes; parking not allowed.
Adjacent Land Use: Retail businesses on north side and residential neighborhood on the south side.
Other Conditions: Traffic turning in and out of retail driveways.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include traffic turning in and out of retail driveways, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

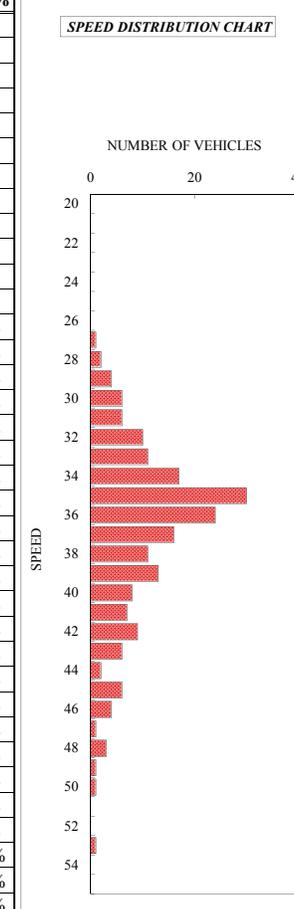
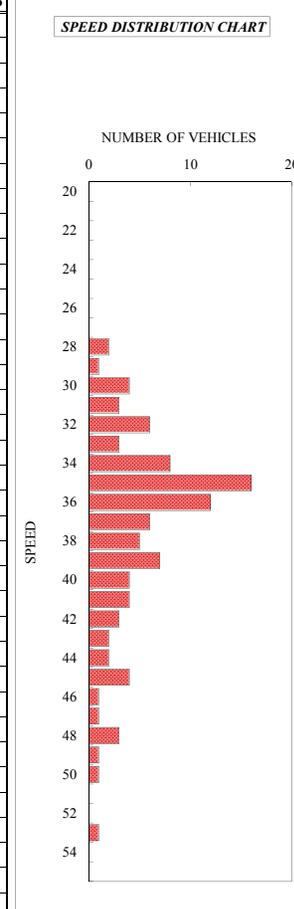
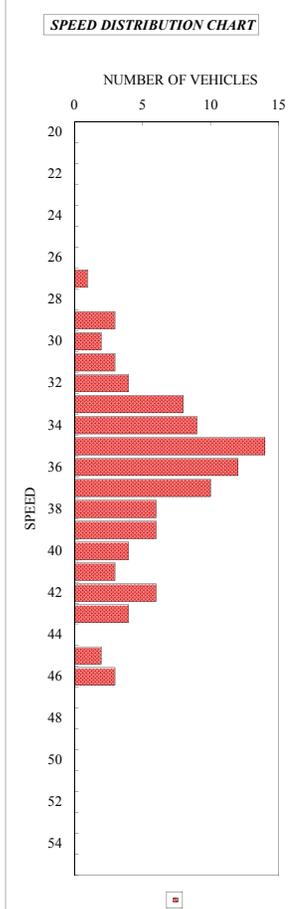
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/16/2017 DAY: WEDNESDAY TIME: 9:10-10:15AM

23. JARVIS AVENUE BETWEEN LAKE BOULEVARD & LIDO BOULEVARD

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%									
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%									
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%									
27 mph	1	1.0%	1.0%	27 mph	0	0.0%	0.0%	27 mph	1	0.5%	0.5%									
28 mph	0	0.0%	1.0%	28 mph	2	2.0%	2.0%	28 mph	2	1.0%	1.5%									
29 mph	3	3.0%	4.0%	29 mph	1	1.0%	3.0%	29 mph	4	2.0%	3.5%									
30 mph	2	2.0%	6.0%	30 mph	4	4.0%	7.0%	30 mph	6	3.0%	6.5%									
31 mph	3	3.0%	9.0%	31 mph	3	3.0%	10.0%	31 mph	6	3.0%	9.5%									
32 mph	4	4.0%	13.0%	32 mph	6	6.0%	16.0%	32 mph	10	5.0%	14.5%									
33 mph	8	8.0%	21.0%	33 mph	3	3.0%	19.0%	33 mph	11	5.5%	20.0%									
34 mph	9	9.0%	30.0%	34 mph	8	8.0%	27.0%	34 mph	17	8.5%	28.5%									
35 mph	14	14.0%	44.0%	35 mph	16	16.0%	43.0%	35 mph	30	15.0%	43.5%									
36 mph	12	12.0%	56.0%	36 mph	12	12.0%	55.0%	36 mph	24	12.0%	55.5%									
37 mph	10	10.0%	66.0%	37 mph	6	6.0%	61.0%	37 mph	16	8.0%	63.5%									
38 mph	6	6.0%	72.0%	38 mph	5	5.0%	66.0%	38 mph	11	5.5%	69.0%									
39 mph	6	6.0%	78.0%	39 mph	7	7.0%	73.0%	39 mph	13	6.5%	75.5%									
40 mph	4	4.0%	82.0%	40 mph	4	4.0%	77.0%	40 mph	8	4.0%	79.5%									
41 mph	3	3.0%	85.0%	41 mph	4	4.0%	81.0%	41 mph	7	3.5%	83.0%									
42 mph	6	6.0%	91.0%	42 mph	3	3.0%	84.0%	42 mph	9	4.5%	87.5%									
43 mph	4	4.0%	95.0%	43 mph	2	2.0%	86.0%	43 mph	6	3.0%	90.5%									
44 mph	0	0.0%	95.0%	44 mph	2	2.0%	88.0%	44 mph	2	1.0%	91.5%									
45 mph	2	2.0%	97.0%	45 mph	4	4.0%	92.0%	45 mph	6	3.0%	94.5%									
46 mph	3	3.0%	100.0%	46 mph	1	1.0%	93.0%	46 mph	4	2.0%	96.5%									
47 mph	0	0.0%	100.0%	47 mph	1	1.0%	94.0%	47 mph	1	0.5%	97.0%									
48 mph	0	0.0%	100.0%	48 mph	3	3.0%	97.0%	48 mph	3	1.5%	98.5%									
49 mph	0	0.0%	100.0%	49 mph	1	1.0%	98.0%	49 mph	1	0.5%	99.0%									
50 mph	0	0.0%	100.0%	50 mph	1	1.0%	99.0%	50 mph	1	0.5%	99.5%									
51 mph	0	0.0%	100.0%	51 mph	0	0.0%	99.0%	51 mph	0	0.0%	99.5%									
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	99.0%	52 mph	0	0.0%	99.5%									
53 mph	0	0.0%	100.0%	53 mph	1	1.0%	100.0%	53 mph	1	0.5%	100.0%									
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%									
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	36.5	TOTAL:	100	100.0%		AVERAGE SPEED:	37.3	TOTAL:	200	100.0%		AVERAGE SPEED:	36.9			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	32.0	33.0	34.0	36.0	41.2	42.0	SPEEDS:	31.9	32.0	34.0	36.0	43.0	45.0	SPEEDS:	32.0	33.0	34.0	36.0	42.0	43.0
10 MPH PACE SPEED	33-42	NUMBER IN PACE	78	PERCENT	78.0%	10 MPH PACE SPEED	32-41	NUMBER IN PACE	71	PERCENT	71.0%	10 MPH PACE SPEED	32-41	NUMBER IN PACE	147	PERCENT	73.5%			
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	100	94	56	18	3	0	TOTAL:	100	93	57	23	8	1	TOTAL:	200	187	113	41	11	1
PERCENTAGE:	100.0%	94.0%	56.0%	18.0%	3.0%	0.0%	PERCENTAGE:	100.0%	93.0%	57.0%	23.0%	8.0%	1.0%	PERCENTAGE:	100.0%	93.5%	56.5%	20.5%	5.5%	0.5%



24. Jarvis Avenue (between Lido Blvd. and Gateway Blvd.)

This segment of Jarvis Avenue is oriented in a primarily east-west direction between Lido Boulevard and Gateway Boulevard. It consists of four through lanes separated by raised center medians. It is straight from Lido Boulevard to Kiote Drive then curves north to Gateway Boulevard. There are striped bicycle lanes. Parking is not allowed. It is classified as an arterial road in the Newark General Plan. The segment carries through trips as well as trips to/from residential areas located to the south, retail areas to the east, and a business park located to the north. There is also a school located near the Lido Boulevard intersection.

Speed Data

There is an existing posted speed limit of 45 mph. There are westbound speed limit signs located west of Lido Boulevard and Haley Street. There are eastbound signs located east of Spruce Street, Haley Street, and Fircrest Street. There are also “Curve/35 mph” speed advisory signs located on the approaches to the curve near Gateway Boulevard. The measured 85th-percentile speed was recorded as follows:

<u>Jarvis Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Lido Blvd. to Gateway Blvd.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	45 mph	49.0 mph	45 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 45 mph. The proximity of the school with associated pedestrian and bicycle activity warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 50 mph, resulting in a 45 mph speed limit.

Improvements

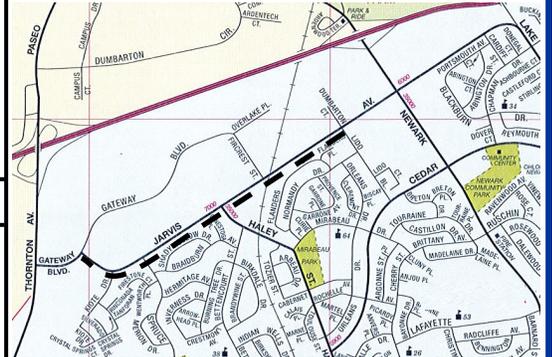
The speed limit in the eastbound direction transitions from 45 mph west of Lido Boulevard to 35 mph east of Lido Boulevard. In order to alert motorists of the speed limit change, it is recommended that an eastbound speed reduction warning sign (“35 Ahead” with Arrow, CaMUTCD Type W3-5) be installed on Jarvis Avenue west of Lido Boulevard.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: JARVIS AVENUE
Limits: between Lido Boulevard and Gateway Boulevard

SPEED DATA

Location of Survey: between Haley St. and Spruce St.
Date Taken: 8/22/17
Existing Speed Limit: 45 mph
85th Percentile Speed: 49.0 mph
10-mph Pace Speed: 38-47 mph
% Vehicles in Pace/Above/Below: 68% / 20% / 12%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 7 ('12 = 1, '13 = 0, '14 = 2, '15 = 3, '16 = 1)
Speed Related Accidents: Total = 3 ('12 = 0, '13 = 0, '14 = 0, '15 = 3, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.37 a/mvm
Statewide Average Rate: 1.92 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 1.00 mile
Average Daily Traffic: 10,378 ADT
Street Classification: Arterial
No. of lanes: 4 lanes with center medians.
Roadway Characteristics: straight from Lido Boulevard to Kiote Drive, then horizontal curve to Gateway Boulevard; striped bicycle lanes; parking not allowed.
Adjacent Land Use: Business park on north side, residential neighborhood on the south side, and retail businesses to the east;
Other Conditions: School located near Lido Boulevard.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include school with associated pedestrian and bicycle activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 50 mph, resulting in a 45 mph speed limit.

Recommended Speed Limit = 45 mph

Existing Speed Limit = 45 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

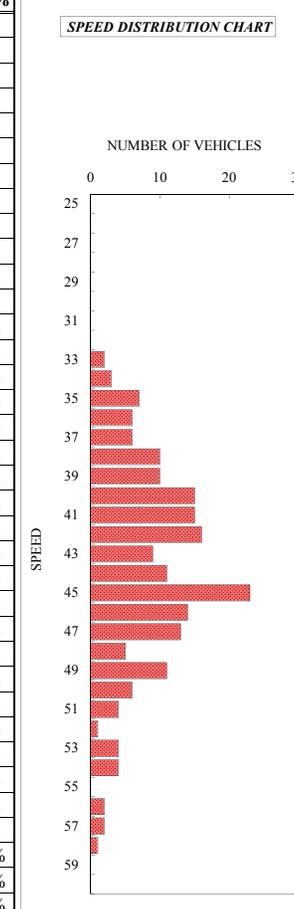
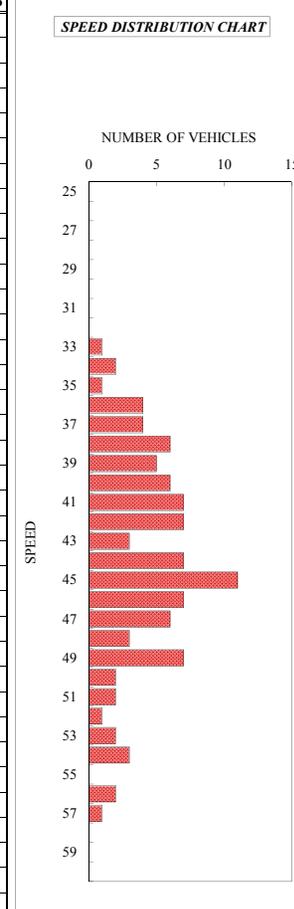
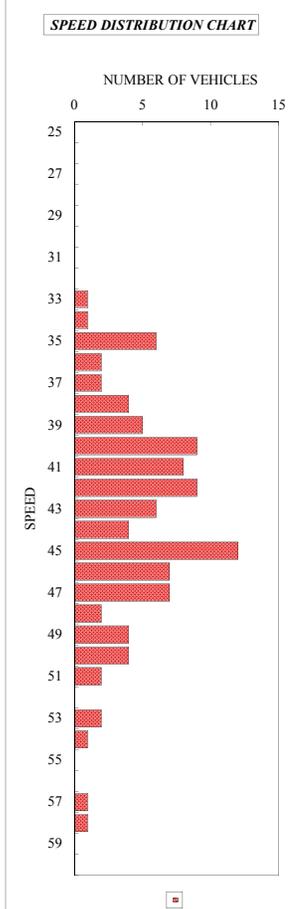
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/22/2017 DAY: TUESDAY TIME: 9:15-10:05AM

24. JARVIS AVENUE BETWEEN LIDO BOULEVARD & GATEWAY BOULEVARD

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%									
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%									
27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%									
28 mph	0	0.0%	0.0%	28 mph	0	0.0%	0.0%	28 mph	0	0.0%	0.0%									
29 mph	0	0.0%	0.0%	29 mph	0	0.0%	0.0%	29 mph	0	0.0%	0.0%									
30 mph	0	0.0%	0.0%	30 mph	0	0.0%	0.0%	30 mph	0	0.0%	0.0%									
31 mph	0	0.0%	0.0%	31 mph	0	0.0%	0.0%	31 mph	0	0.0%	0.0%									
32 mph	0	0.0%	0.0%	32 mph	0	0.0%	0.0%	32 mph	0	0.0%	0.0%									
33 mph	1	1.0%	1.0%	33 mph	1	1.0%	1.0%	33 mph	2	1.0%	1.0%									
34 mph	1	1.0%	2.0%	34 mph	2	2.0%	3.0%	34 mph	3	1.5%	2.5%									
35 mph	6	6.0%	8.0%	35 mph	1	1.0%	4.0%	35 mph	7	3.5%	6.0%									
36 mph	2	2.0%	10.0%	36 mph	4	4.0%	8.0%	36 mph	6	3.0%	9.0%									
37 mph	2	2.0%	12.0%	37 mph	4	4.0%	12.0%	37 mph	6	3.0%	12.0%									
38 mph	4	4.0%	16.0%	38 mph	6	6.0%	18.0%	38 mph	10	5.0%	17.0%									
39 mph	5	5.0%	21.0%	39 mph	5	5.0%	23.0%	39 mph	10	5.0%	22.0%									
40 mph	9	9.0%	30.0%	40 mph	6	6.0%	29.0%	40 mph	15	7.5%	29.5%									
41 mph	8	8.0%	38.0%	41 mph	7	7.0%	36.0%	41 mph	15	7.5%	37.0%									
42 mph	9	9.0%	47.0%	42 mph	7	7.0%	43.0%	42 mph	16	8.0%	45.0%									
43 mph	6	6.0%	53.0%	43 mph	3	3.0%	46.0%	43 mph	9	4.5%	49.5%									
44 mph	4	4.0%	57.0%	44 mph	7	7.0%	53.0%	44 mph	11	5.5%	55.0%									
45 mph	12	12.0%	69.0%	45 mph	11	11.0%	64.0%	45 mph	23	11.5%	66.5%									
46 mph	7	7.0%	76.0%	46 mph	7	7.0%	71.0%	46 mph	14	7.0%	73.5%									
47 mph	7	7.0%	83.0%	47 mph	6	6.0%	77.0%	47 mph	13	6.5%	80.0%									
48 mph	2	2.0%	85.0%	48 mph	3	3.0%	80.0%	48 mph	5	2.5%	82.5%									
49 mph	4	4.0%	89.0%	49 mph	7	7.0%	87.0%	49 mph	11	5.5%	88.0%									
50 mph	4	4.0%	93.0%	50 mph	2	2.0%	89.0%	50 mph	6	3.0%	91.0%									
51 mph	2	2.0%	95.0%	51 mph	2	2.0%	91.0%	51 mph	4	2.0%	93.0%									
52 mph	0	0.0%	95.0%	52 mph	1	1.0%	92.0%	52 mph	1	0.5%	93.5%									
53 mph	2	2.0%	97.0%	53 mph	2	2.0%	94.0%	53 mph	4	2.0%	95.5%									
54 mph	1	1.0%	98.0%	54 mph	3	3.0%	97.0%	54 mph	4	2.0%	97.5%									
55 mph	0	0.0%	98.0%	55 mph	0	0.0%	97.0%	55 mph	0	0.0%	97.5%									
56 mph	0	0.0%	98.0%	56 mph	2	2.0%	99.0%	56 mph	2	1.0%	98.5%									
57 mph	1	1.0%	99.0%	57 mph	1	1.0%	100.0%	57 mph	2	1.0%	99.5%									
58 mph	1	1.0%	100.0%	58 mph	0	0.0%	100.0%	58 mph	1	0.5%	100.0%									
59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%									
60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	43.3	TOTAL:	100	100.0%		AVERAGE SPEED:	43.9	TOTAL:	200	100.0%		AVERAGE SPEED:	43.6			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	36.9	38.0	40.0	43.0	48.2	50.0	SPEEDS:	37.0	38.0	40.0	44.0	49.0	51.0	SPEEDS:	37.0	38.0	40.0	44.0	49.0	50.0
10 MPH PACE SPEED	38-47	NUMBER IN PACE	71	PERCENT:	71.0%	10 MPH PACE SPEED	38-47	NUMBER IN PACE	65	PERCENT:	65.0%	10 MPH PACE SPEED	38-47	NUMBER IN PACE:	136	PERCENT:	68.0%			
SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH
TOTAL:	100	92	70	31	7	2	TOTAL:	100	96	71	36	11	3	TOTAL:	200	188	141	67	18	5
PERCENTAGE:	100.0%	92.0%	70.0%	31.0%	7.0%	2.0%	PERCENTAGE:	100.0%	96.0%	71.0%	36.0%	11.0%	3.0%	PERCENTAGE:	100.0%	94.0%	70.5%	33.5%	9.0%	2.5%



25. Joaquin Murieta Avenue (between Cedar Blvd. and Cherry St.)

Joaquin Murieta Avenue extends in a primarily east-west direction between Cedar Boulevard and Cherry Street. It is a two lane street that is broadly curved in the middle of the segment. Parking is allowed. It is classified as a collector road in the Newark General Plan. The road traverses through a multi-unit residential neighborhood.

Speed Data

There is an existing posted speed limit of 25 mph. There are speed limit signs located near Cedar Boulevard and Cherry Street and in the middle of the segment. The measured 85th-percentile speed was recorded as follows:

<u>Joaquin Murieta Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Cedar Blvd. to Cherry St.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	25 mph	32.0 mph	25 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 25 mph. The road is in a residential district (CVC Section 22352: prima facie 25 mph speed limit) and there is street parking activity by the residents. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 30 mph be implemented, resulting in a 25 mph speed limit.

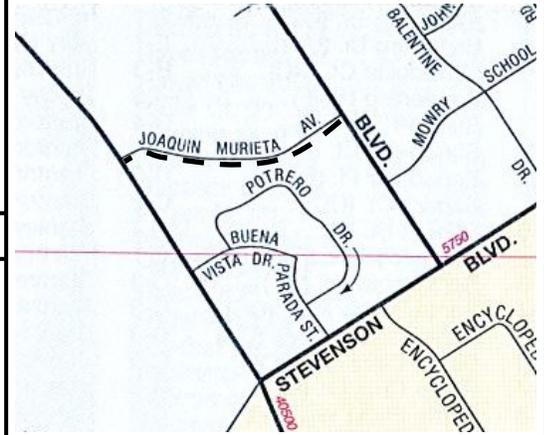
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: JOAQUIN MURIETA AVENUE
Limits: between Cedar Boulevard and Cherry Street

SPEED DATA

Location of Survey: between Cedar Blvd. and driveway 800' west of Cedar Blvd.
Date Taken: 8/15/17
Existing Speed Limit: 25 mph
85th Percentile Speed: 32.0 mph
10-mph Pace Speed: 23-32 mph
% Vehicles in Pace/Above/Below: 78% / 11% / 11%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 4 ('12 = 1, '13 = 0, '14 = 1, '15 = 1, '16 = 1)
Speed Related Accidents: Total = 1 ('12 = 1, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 1.68 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.35 mile
Average Daily Traffic: 3,729 ADT
Street Classification: Collector
No. of lanes: 2 lanes with center median and center line striping.
Roadway Characteristics: Horizontal curves in middle of the segment; parking is allowed.
Adjacent Land Use: Residential on both sides (no direct vehicle access).
Other Conditions: Street parking activity by the residents.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential district (CVC Section 22352: prima facie 25 mph speed limit), and street parking activity by residents, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 30 mph, resulting in a 25 mph speed limit.

Recommended Speed Limit = 25 mph

Existing Speed Limit = 25 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

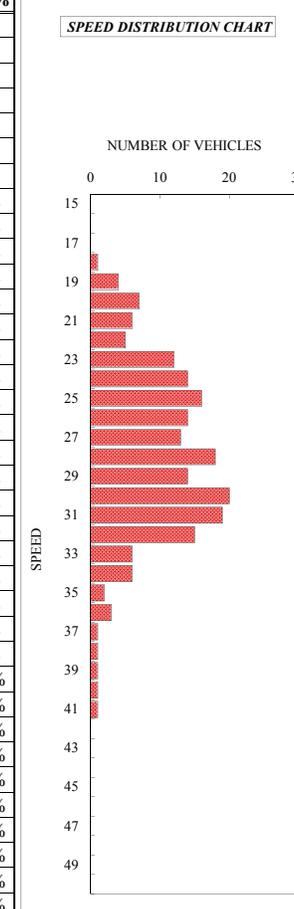
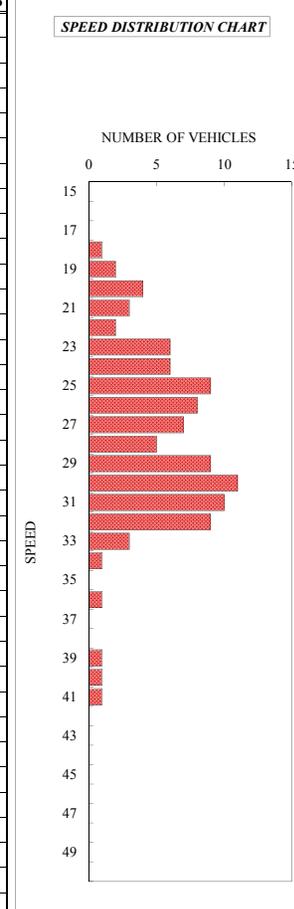
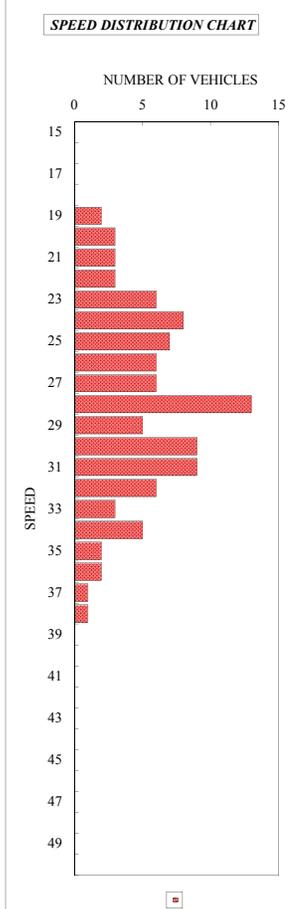
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/15/2017 DAY: TUESDAY TIME: 2:05-4:25PM

25. JOAQUIN MURIETA AVENUE BETWEEN CEDAR BOULEVARD & CHERRY STREET

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	1	1.0%	1.0%	18 mph	1	0.5%	0.5%									
19 mph	2	2.0%	2.0%	19 mph	2	2.0%	3.0%	19 mph	4	2.0%	2.5%									
20 mph	3	3.0%	5.0%	20 mph	4	4.0%	7.0%	20 mph	7	3.5%	6.0%									
21 mph	3	3.0%	8.0%	21 mph	3	3.0%	10.0%	21 mph	6	3.0%	9.0%									
22 mph	3	3.0%	11.0%	22 mph	2	2.0%	12.0%	22 mph	5	2.5%	11.5%									
23 mph	6	6.0%	17.0%	23 mph	6	6.0%	18.0%	23 mph	12	6.0%	17.5%									
24 mph	8	8.0%	25.0%	24 mph	6	6.0%	24.0%	24 mph	14	7.0%	24.5%									
25 mph	7	7.0%	32.0%	25 mph	9	9.0%	33.0%	25 mph	16	8.0%	32.5%									
26 mph	6	6.0%	38.0%	26 mph	8	8.0%	41.0%	26 mph	14	7.0%	39.5%									
27 mph	6	6.0%	44.0%	27 mph	7	7.0%	48.0%	27 mph	13	6.5%	46.0%									
28 mph	13	13.0%	57.0%	28 mph	5	5.0%	53.0%	28 mph	18	9.0%	55.0%									
29 mph	5	5.0%	62.0%	29 mph	9	9.0%	62.0%	29 mph	14	7.0%	62.0%									
30 mph	9	9.0%	71.0%	30 mph	11	11.0%	73.0%	30 mph	20	10.0%	72.0%									
31 mph	9	9.0%	80.0%	31 mph	10	10.0%	83.0%	31 mph	19	9.5%	81.5%									
32 mph	6	6.0%	86.0%	32 mph	9	9.0%	92.0%	32 mph	15	7.5%	89.0%									
33 mph	3	3.0%	89.0%	33 mph	3	3.0%	95.0%	33 mph	6	3.0%	92.0%									
34 mph	5	5.0%	94.0%	34 mph	1	1.0%	96.0%	34 mph	6	3.0%	95.0%									
35 mph	2	2.0%	96.0%	35 mph	0	0.0%	96.0%	35 mph	2	1.0%	96.0%									
36 mph	2	2.0%	98.0%	36 mph	1	1.0%	97.0%	36 mph	3	1.5%	97.5%									
37 mph	1	1.0%	99.0%	37 mph	0	0.0%	97.0%	37 mph	1	0.5%	98.0%									
38 mph	1	1.0%	100.0%	38 mph	0	0.0%	97.0%	38 mph	1	0.5%	98.5%									
39 mph	0	0.0%	100.0%	39 mph	1	1.0%	98.0%	39 mph	1	0.5%	99.0%									
40 mph	0	0.0%	100.0%	40 mph	1	1.0%	99.0%	40 mph	1	0.5%	99.5%									
41 mph	0	0.0%	100.0%	41 mph	1	1.0%	100.0%	41 mph	1	0.5%	100.0%									
42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%									
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	27.9	TOTAL:	100	100.0%		AVERAGE SPEED:	27.7	TOTAL:	200	100.0%		AVERAGE SPEED:	27.8			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	22.0	23.0	24.8	28.0	32.0	34.0	SPEEDS:	21.9	23.0	25.0	28.0	32.0	32.0	SPEEDS:	22.0	23.0	25.0	28.0	32.0	33.0
10 MPH PACE SPEED	23-32	NUMBER IN PACE		75	PERCENT:	75.0%	10 MPH PACE SPEED	23-32	NUMBER IN PACE		80	PERCENT:	80.0%	10 MPH PACE SPEED	23-32	NUMBER IN PACE		155	PERCENT:	77.5%
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	95	68	29	4	0	0	TOTAL:	93	67	27	4	1	0	TOTAL:	188	135	56	8	1	0
PERCENTAGE:	95.0%	68.0%	29.0%	4.0%	0.0%	0.0%	PERCENTAGE:	93.0%	67.0%	27.0%	4.0%	1.0%	0.0%	PERCENTAGE:	94.0%	67.5%	28.0%	4.0%	0.5%	0.0%



26. Lafayette Avenue (between Cedar Blvd. and Cherry St.)

Lafayette Avenue extends in a primarily east-west direction between Cedar Boulevard and Cherry Street. It consists of a combination of straight sections and moderately curved sections. There are two lanes separated by centerline striping. Street parking is allowed. It is classified as a collector road in the Newark General Plan. It is bordered by residential units with direct driveway access. There is a school located on the north side west of Newark Boulevard and a school on the south side near Cherry Street. Intersections between Newark Boulevard and Cherry Street have yellow school crosswalks.

Speed Data

There is an existing speed limit of 25 mph. There is a westbound speed limit sign located west of Cedar Boulevard and an eastbound sign located east of Newark Boulevard. There are no speed limit signs between Newark Boulevard and Cherry Street. The measured 85th-percentile speed was recorded as follows:

<u>Lafayette Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Cedar Blvd. to Cherry St.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	25 mph	29.0 mph	25 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 25 mph. The road is in a residential district (CVC Section 22352: prima facie speed limit of 25 mph). The residential unit density also meets the standard for consideration in setting the speed limit (CVC Section 627). Additional factors include adjacent residences with traffic turning in and backing out of driveways, street parking maneuvers, and schools with associated pedestrian and bicycle activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 30 mph be implemented, resulting in a 25 mph speed limit.

Improvements

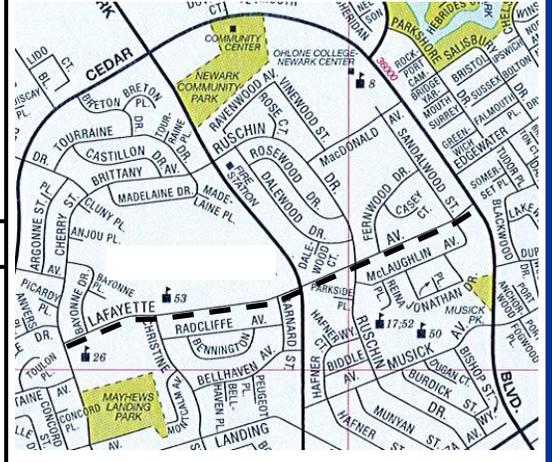
There are no speed limit signs between Newark Boulevard and Cherry Street. Speed limit signs are not required since the roadway is in a residential district (prima facie speed limit of 25 mph). However, consideration could be given to installing a westbound 25 mph speed limit sign west of Newark Boulevard and an eastbound speed limit sign east of Cherry Street.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: LAFAYETTE AVENUE
Limits: between Cedar Boulevard and Cherry Street

SPEED DATA

Location of Survey: between Sandalwood St. and Ruschin Dr.
Date Taken: 8/24/17
Existing Speed Limit: 25 mph
85th Percentile Speed: 29.0 mph
10-mph Pace Speed: 22-31 mph
% Vehicles in Pace/Above/Below: 86% / 5% / 9%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 2 ('12 = 0, '13 = 0, '14 = 1, '15 = 0, '16 = 1)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.64 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.90 mile
Average Daily Traffic: 1,889 ADT
Street Classification: Collector
No. of lanes: 2 lanes with center line striping.
Roadway Characteristics: Mostly straight with horizontal curves near Sandalwood Street, Barnard Street and Christine Street; street parking allowed.
Adjacent Land Use: Residential with direct driveway access.
Other Conditions: Schools with yellow school crosswalks at nearby intersections.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential district (CVC Section 22352: prima facie speed limit of 25 mph), and residential unit density which meets the standard for consideration in setting the speed limit (CVC Section 627), residential driveways with traffic turning in and out, and nearby school, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 30 mph, resulting in a 25 mph speed limit.

Recommended Speed Limit = 25 mph

Existing Speed Limit = 25 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

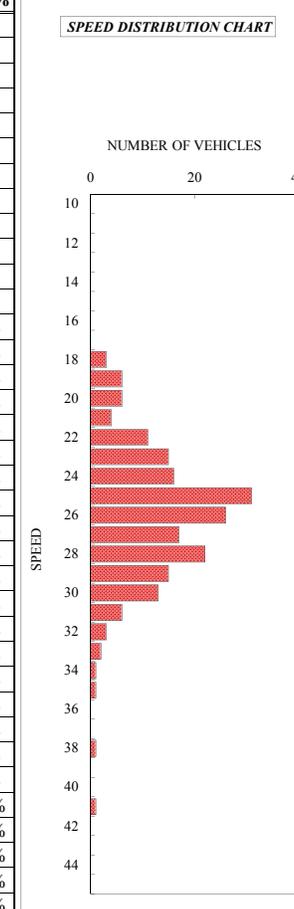
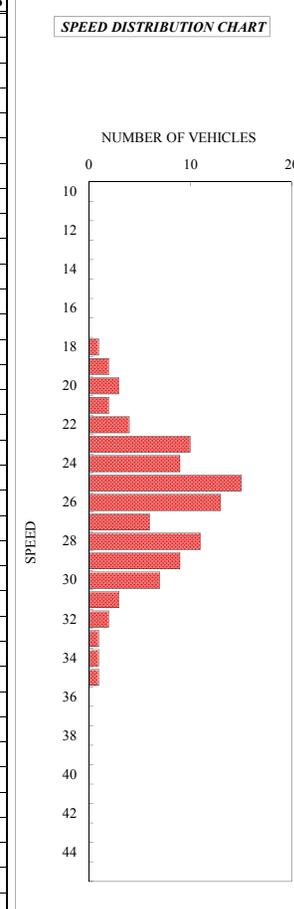
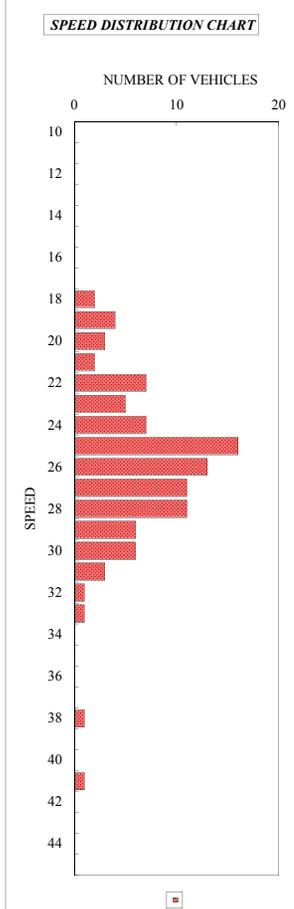
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/24/2017 DAY: THURSDAY TIME: 2:55-4:30PM

26. LAFAYETTE AVENUE BETWEEN CEDAR BOULEVARD & CHERRY STREET

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
10 mph	0	0.0%	0.0%	10 mph	0	0.0%	0.0%	10 mph	0	0.0%	0.0%									
11 mph	0	0.0%	0.0%	11 mph	0	0.0%	0.0%	11 mph	0	0.0%	0.0%									
12 mph	0	0.0%	0.0%	12 mph	0	0.0%	0.0%	12 mph	0	0.0%	0.0%									
13 mph	0	0.0%	0.0%	13 mph	0	0.0%	0.0%	13 mph	0	0.0%	0.0%									
14 mph	0	0.0%	0.0%	14 mph	0	0.0%	0.0%	14 mph	0	0.0%	0.0%									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	2	2.0%	2.0%	18 mph	1	1.0%	1.0%	18 mph	3	1.5%	1.5%									
19 mph	4	4.0%	6.0%	19 mph	2	2.0%	3.0%	19 mph	6	3.0%	4.5%									
20 mph	3	3.0%	9.0%	20 mph	3	3.0%	6.0%	20 mph	6	3.0%	7.5%									
21 mph	2	2.0%	11.0%	21 mph	2	2.0%	8.0%	21 mph	4	2.0%	9.5%									
22 mph	7	7.0%	18.0%	22 mph	4	4.0%	12.0%	22 mph	11	5.5%	15.0%									
23 mph	5	5.0%	23.0%	23 mph	10	10.0%	22.0%	23 mph	15	7.5%	22.5%									
24 mph	7	7.0%	30.0%	24 mph	9	9.0%	31.0%	24 mph	16	8.0%	30.5%									
25 mph	16	16.0%	46.0%	25 mph	15	15.0%	46.0%	25 mph	31	15.5%	46.0%									
26 mph	13	13.0%	59.0%	26 mph	13	13.0%	59.0%	26 mph	26	13.0%	59.0%									
27 mph	11	11.0%	70.0%	27 mph	6	6.0%	65.0%	27 mph	17	8.5%	67.5%									
28 mph	11	11.0%	81.0%	28 mph	11	11.0%	76.0%	28 mph	22	11.0%	78.5%									
29 mph	6	6.0%	87.0%	29 mph	9	9.0%	85.0%	29 mph	15	7.5%	86.0%									
30 mph	6	6.0%	93.0%	30 mph	7	7.0%	92.0%	30 mph	13	6.5%	92.5%									
31 mph	3	3.0%	96.0%	31 mph	3	3.0%	95.0%	31 mph	6	3.0%	95.5%									
32 mph	1	1.0%	97.0%	32 mph	2	2.0%	97.0%	32 mph	3	1.5%	97.0%									
33 mph	1	1.0%	98.0%	33 mph	1	1.0%	98.0%	33 mph	2	1.0%	98.0%									
34 mph	0	0.0%	98.0%	34 mph	1	1.0%	99.0%	34 mph	1	0.5%	98.5%									
35 mph	0	0.0%	98.0%	35 mph	1	1.0%	100.0%	35 mph	1	0.5%	99.0%									
36 mph	0	0.0%	98.0%	36 mph	0	0.0%	100.0%	36 mph	0	0.0%	99.0%									
37 mph	0	0.0%	98.0%	37 mph	0	0.0%	100.0%	37 mph	0	0.0%	99.0%									
38 mph	1	1.0%	99.0%	38 mph	0	0.0%	100.0%	38 mph	1	0.5%	99.5%									
39 mph	0	0.0%	99.0%	39 mph	0	0.0%	100.0%	39 mph	0	0.0%	99.5%									
40 mph	0	0.0%	99.0%	40 mph	0	0.0%	100.0%	40 mph	0	0.0%	99.5%									
41 mph	1	1.0%	100.0%	41 mph	0	0.0%	100.0%	41 mph	1	0.5%	100.0%									
42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%									
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	25.9	TOTAL:	100	100.0%		AVERAGE SPEED:	26.1	TOTAL:	200	100.0%		AVERAGE SPEED:	26.0			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	21.0	22.0	24.0	26.0	29.0	30.0	SPEEDS:	22.0	23.0	24.0	26.0	29.2	30.0	SPEEDS:	22.0	22.9	24.0	26.0	29.0	30.0
10 MPH PACE SPEED	22-31	NUMBER IN PACE	85	PERCENT:	85.0%	10 MPH PACE SPEED	22-31	NUMBER IN PACE	87	PERCENT:	87.0%	10 MPH PACE SPEED	22-31	NUMBER IN PACE:	172	PERCENT:	86.0%			
SPEED EXCEEDED:	15 MPH	20 MPH	25MPH	30 MPH	35 MPH	40 MPH	SPEED EXCEEDED:	15 MPH	20 MPH	25MPH	30 MPH	35 MPH	40 MPH	SPEED EXCEEDED:	15 MPH	20 MPH	25MPH	30 MPH	35 MPH	40 MPH
TOTAL:	100	91	54	7	2	1	TOTAL:	100	94	54	8	0	0	TOTAL:	200	185	108	15	2	1
PERCENTAGE:	100.0%	91.0%	54.0%	7.0%	2.0%	1.0%	PERCENTAGE:	100.0%	94.0%	54.0%	8.0%	0.0%	0.0%	PERCENTAGE:	100.0%	92.5%	54.0%	7.5%	1.0%	0.5%



27. Lake Boulevard (between Jarvis Ave. and Cedar Blvd.)

Lake Boulevard extends south from Jarvis Avenue then curves west to Cedar Boulevard. It is a two lane road separated by wide landscaped center medians. Parking is allowed. It is classified as an arterial road in the Newark General Plan. The road extends through a residential neighborhood, but there is no direct driveway access. There is a school located one block west and there are yellow school crosswalks at the Ramsgate Drive and Cedar Boulevard intersections.

Speed Data

The segment has a posted speed limit of 30 mph. There are southbound signs south of Jarvis Avenue and Ramsgate Drive and there is a northbound sign north of Cedar Boulevard. The measured 85th-percentile speed was recorded as follows:

<u>Lake Boulevard:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Jarvis Ave. to Cedar Blvd.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	30 mph	34.0 mph	30 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 30 mph. The road is in a residential area with nearby school and associated pedestrian and bicycle activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 35 mph be implemented, resulting in a 30 mph speed limit.

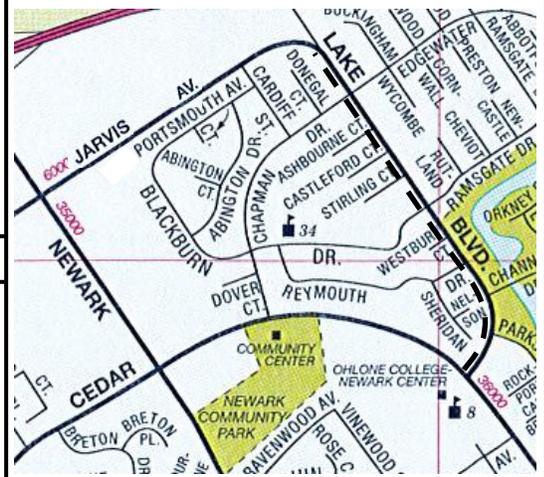
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: LAKE BOULEVARD
Limits: between Jarvis Avenue Cedar Boulevard

SPEED DATA

Location of Survey: between Edgewater Dr. and Ramsgate Dr.
Date Taken: 8/16/17
Existing Speed Limit: 30 mph
85th Percentile Speed: 34.0 mph
10-mph Pace Speed: 25-34 mph
% Vehicles in Pace/Above/Below: 81% / 10% / 9%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 2 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 2)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.34 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.57 mile
Average Daily Traffic: 5,695 ADT
Street Classification: Arterial
No. of lanes: 2 lanes with center medians.
Roadway Characteristics: Straight between Jarvis Avenue and Channel Drive, then horizontal curve between Channel Drive and Cedar Boulevard; street parking allowed.
Adjacent Land Use: Residential neighborhood, but no direct driveway access.
Other Conditions: School located to the west with school crosswalks at the Ramsgate Drive and Cedar Boulevard intersections.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential neighborhood and nearby school with associated pedestrian activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 35 mph, resulting in a 30 mph speed limit.

Recommended Speed Limit = 30 mph

Existing Speed Limit = 30 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

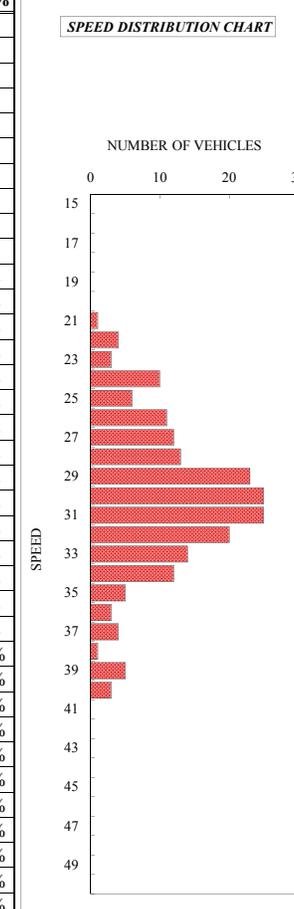
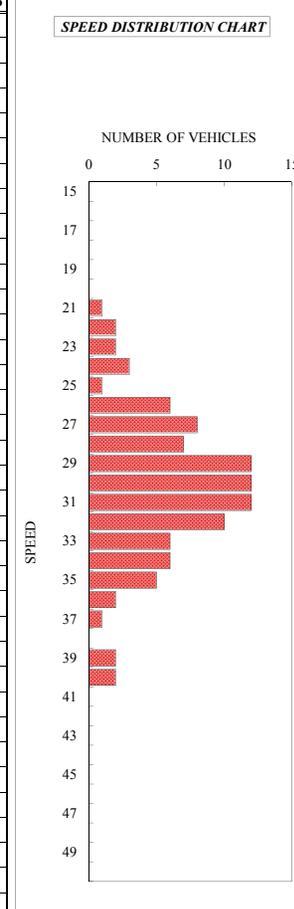
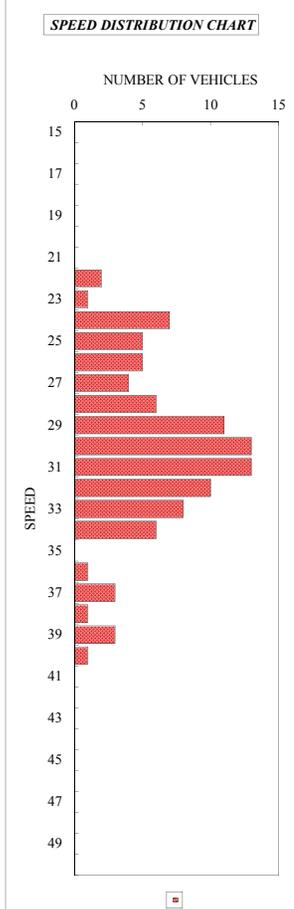
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/16/2017 DAY: WEDNESDAY TIME: 11:50-1:00PM

27. LAKE BOULEVARD BETWEEN JARVIS AVENUE & CEDAR BOULEVARD

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%									
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	1	1.0%	1.0%	21 mph	1	0.5%	0.5%									
22 mph	2	2.0%	2.0%	22 mph	2	2.0%	3.0%	22 mph	4	2.0%	2.5%									
23 mph	1	1.0%	3.0%	23 mph	2	2.0%	5.0%	23 mph	3	1.5%	4.0%									
24 mph	7	7.0%	10.0%	24 mph	3	3.0%	8.0%	24 mph	10	5.0%	9.0%									
25 mph	5	5.0%	15.0%	25 mph	1	1.0%	9.0%	25 mph	6	3.0%	12.0%									
26 mph	5	5.0%	20.0%	26 mph	6	6.0%	15.0%	26 mph	11	5.5%	17.5%									
27 mph	4	4.0%	24.0%	27 mph	8	8.0%	23.0%	27 mph	12	6.0%	23.5%									
28 mph	6	6.0%	30.0%	28 mph	7	7.0%	30.0%	28 mph	13	6.5%	30.0%									
29 mph	11	11.0%	41.0%	29 mph	12	12.0%	42.0%	29 mph	23	11.5%	41.5%									
30 mph	13	13.0%	54.0%	30 mph	12	12.0%	54.0%	30 mph	25	12.5%	54.0%									
31 mph	13	13.0%	67.0%	31 mph	12	12.0%	66.0%	31 mph	25	12.5%	66.5%									
32 mph	10	10.0%	77.0%	32 mph	10	10.0%	76.0%	32 mph	20	10.0%	76.5%									
33 mph	8	8.0%	85.0%	33 mph	6	6.0%	82.0%	33 mph	14	7.0%	83.5%									
34 mph	6	6.0%	91.0%	34 mph	6	6.0%	88.0%	34 mph	12	6.0%	89.5%									
35 mph	0	0.0%	91.0%	35 mph	5	5.0%	93.0%	35 mph	5	2.5%	92.0%									
36 mph	1	1.0%	92.0%	36 mph	2	2.0%	95.0%	36 mph	3	1.5%	93.5%									
37 mph	3	3.0%	95.0%	37 mph	1	1.0%	96.0%	37 mph	4	2.0%	95.5%									
38 mph	1	1.0%	96.0%	38 mph	0	0.0%	96.0%	38 mph	1	0.5%	96.0%									
39 mph	3	3.0%	99.0%	39 mph	2	2.0%	98.0%	39 mph	5	2.5%	98.5%									
40 mph	1	1.0%	100.0%	40 mph	2	2.0%	100.0%	40 mph	3	1.5%	100.0%									
41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%									
42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%									
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	30.1	TOTAL:	100	100.0%		AVERAGE SPEED:	30.2	TOTAL:	200	100.0%		AVERAGE SPEED:	30.1			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	24.9	25.9	28.0	30.0	33.2	34.0	SPEEDS:	26.0	26.9	28.0	30.0	34.0	35.0	SPEEDS:	25.0	26.0	28.0	30.0	34.0	35.0
10 MPH PACE SPEED	24-33	NUMBER IN PACE		82	PERCENT:	82.0%	10 MPH PACE SPEED	26-35	NUMBER IN PACE		84	PERCENT:	84.0%	10 MPH PACE SPEED	25-34	NUMBER IN PACE		161	PERCENT:	80.5%
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	100	85	46	9	0	0	TOTAL:	100	91	46	7	0	0	TOTAL:	200	176	92	16	0	0
PERCENTAGE:	100.0%	85.0%	46.0%	9.0%	0.0%	0.0%	PERCENTAGE:	100.0%	91.0%	46.0%	7.0%	0.0%	0.0%	PERCENTAGE:	100.0%	88.0%	46.0%	8.0%	0.0%	0.0%



28. Lido Boulevard (between Jarvis Ave. and Cedar Blvd.)

Lido Boulevard extends in a primarily north-south direction between Jarvis Avenue and Cedar Boulevard. It is a straight three lane road (one lane northbound and two lanes southbound) with raised center medians. Parking is allowed. It is classified as a collector road in the Newark General Plan. There are multi-unit residential complexes along both sides of the street.

Speed Data

There is an existing posted speed limit of 30 mph. There is a northbound speed limit sign located north of Cedar Boulevard and a southbound sign located south of Jarvis Avenue.

The measured 85th-percentile speed was recorded as follows:

<u>Lido Boulevard:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Jarvis Ave. to Cedar Blvd.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	30 mph	37.0 mph	30 mph (no change)

Recommendation

Based on the measured speed and existing street characteristics, it is recommended the speed limit be maintained at 30 mph. The road is in a residential area with street parking activity by the residents. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 35 mph be implemented, resulting in a 30 mph speed limit.

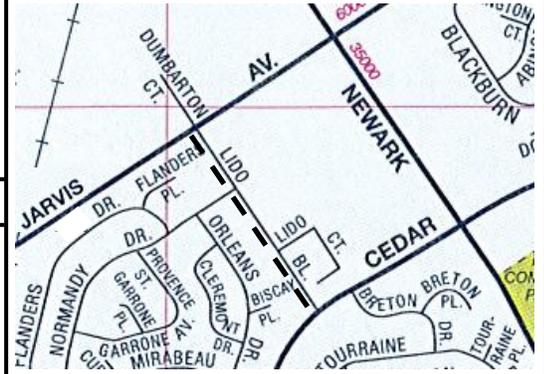
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: LIDO BOULEVARD
Limits: between Jarvis Avenue Cedar Boulevard

SPEED DATA

Location of Survey: between Jarvis Ave. and Cedar Blvd.
Date Taken: 9/13/17
Existing Speed Limit: 30 mph
85th Percentile Speed: 37.0 mph
10-mph Pace Speed: 28-37 mph
% Vehicles in Pace/Above/Below: 80% / 10% / 10%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 2 ('12 = 1, '13 = 0, '14 = 1, '15 = 0, '16 = 0)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.89 a/mvm
Statewide Average Rate: 1.57 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.30 mile
Average Daily Traffic: 4,092 ADT
Street Classification: Collector
No. of lanes: 3 lanes (one northbound and two southbound) with center medians.
Roadway Characteristics: Straight; street parking allowed.
Adjacent Land Use: Residential neighborhood, but no direct driveway access.
Other Conditions: Street parking activity by residents.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential neighborhood and street parking activity by residents, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 35 mph, resulting in a 30 mph speed limit.

Recommended Speed Limit = 30 mph

Existing Speed Limit = 30 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

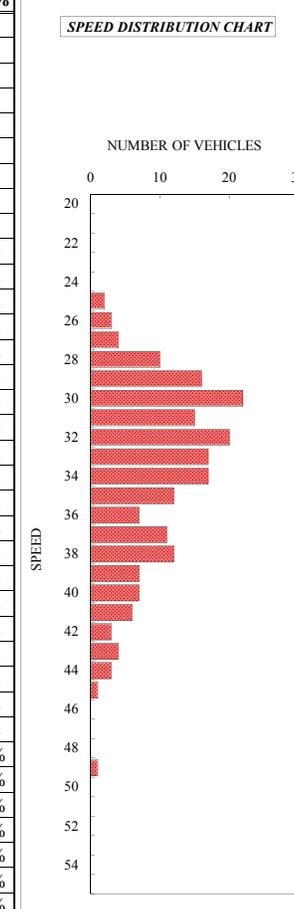
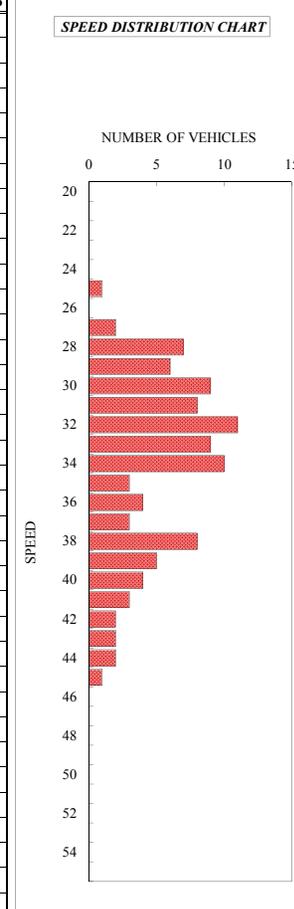
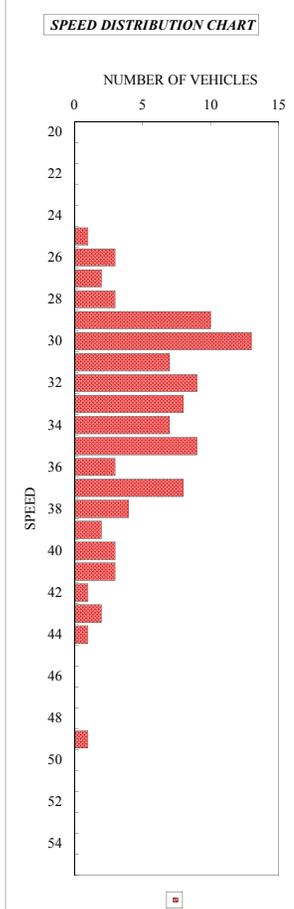
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/22/2017 DAY: TUESDAY TIME: 3:10-4:15PM

28. LIDO BOULEVARD BETWEEN JARVIS AVENUE & CEDAR BOULEVARD

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED														
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %											
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%											
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%											
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%											
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%											
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%											
25 mph	1	1.0%	1.0%	25 mph	1	1.0%	1.0%	25 mph	2	1.0%	1.0%											
26 mph	3	3.0%	4.0%	26 mph	0	0.0%	1.0%	26 mph	3	1.5%	2.5%											
27 mph	2	2.0%	6.0%	27 mph	2	2.0%	3.0%	27 mph	4	2.0%	4.5%											
28 mph	3	3.0%	9.0%	28 mph	7	7.0%	10.0%	28 mph	10	5.0%	9.5%											
29 mph	10	10.0%	19.0%	29 mph	6	6.0%	16.0%	29 mph	16	8.0%	17.5%											
30 mph	13	13.0%	32.0%	30 mph	9	9.0%	25.0%	30 mph	22	11.0%	28.5%											
31 mph	7	7.0%	39.0%	31 mph	8	8.0%	33.0%	31 mph	15	7.5%	36.0%											
32 mph	9	9.0%	48.0%	32 mph	11	11.0%	44.0%	32 mph	20	10.0%	46.0%											
33 mph	8	8.0%	56.0%	33 mph	9	9.0%	53.0%	33 mph	17	8.5%	54.5%											
34 mph	7	7.0%	63.0%	34 mph	10	10.0%	63.0%	34 mph	17	8.5%	63.0%											
35 mph	9	9.0%	72.0%	35 mph	3	3.0%	66.0%	35 mph	12	6.0%	69.0%											
36 mph	3	3.0%	75.0%	36 mph	4	4.0%	70.0%	36 mph	7	3.5%	72.5%											
37 mph	8	8.0%	83.0%	37 mph	3	3.0%	73.0%	37 mph	11	5.5%	78.0%											
38 mph	4	4.0%	87.0%	38 mph	8	8.0%	81.0%	38 mph	12	6.0%	84.0%											
39 mph	2	2.0%	89.0%	39 mph	5	5.0%	86.0%	39 mph	7	3.5%	87.5%											
40 mph	3	3.0%	92.0%	40 mph	4	4.0%	90.0%	40 mph	7	3.5%	91.0%											
41 mph	3	3.0%	95.0%	41 mph	3	3.0%	93.0%	41 mph	6	3.0%	94.0%											
42 mph	1	1.0%	96.0%	42 mph	2	2.0%	95.0%	42 mph	3	1.5%	95.5%											
43 mph	2	2.0%	98.0%	43 mph	2	2.0%	97.0%	43 mph	4	2.0%	97.5%											
44 mph	1	1.0%	99.0%	44 mph	2	2.0%	99.0%	44 mph	3	1.5%	99.0%											
45 mph	0	0.0%	99.0%	45 mph	1	1.0%	100.0%	45 mph	1	0.5%	99.5%											
46 mph	0	0.0%	99.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	99.5%											
47 mph	0	0.0%	99.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	99.5%											
48 mph	0	0.0%	99.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	99.5%											
49 mph	1	1.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	1	0.5%	100.0%											
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%											
51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%											
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%											
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%											
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%											
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%											
TOTAL:	100	100.0%		AVERAGE SPEED:	33.4			TOTAL:	100	100.0%		AVERAGE SPEED:	34.0			TOTAL:	200	100.0%		AVERAGE SPEED:	33.7	
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	29.0	29.0	30.0	33.0	38.0	40.0		SPEEDS:	28.9	29.0	30.8	33.0	39.0	40.1		SPEEDS:	29.0	29.0	30.0	33.0	39.0	40.0
10 MPH PACE SPEED	29-38	NUMBER IN PACE		78	PERCENT:	78.0%		10 MPH PACE SPEED	29-38	NUMBER IN PACE		71	PERCENT:	71.0%		10 MPH PACE SPEED	29-38	NUMBER IN PACE		149	PERCENT:	74.5%
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH		SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH		SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	99	68	28	8	1	0		TOTAL:	99	75	34	10	0	0		TOTAL:	198	143	62	18	1	0
PERCENTAGE:	99.0%	68.0%	28.0%	8.0%	1.0%	0.0%		PERCENTAGE:	99.0%	75.0%	34.0%	10.0%	0.0%	0.0%		PERCENTAGE:	99.0%	71.5%	31.0%	9.0%	0.5%	0.0%



29. Mayhews Landing Road (between Thornton Ave. and Willow St.)

Mayhews Landing Road is oriented in a primarily east-west direction between Thornton Avenue and Willow Street. It extends northwest from Thornton Avenue to Newark Boulevard, then curves west and extends past Spruce Street where it curves to Willow Street. It consists of two lanes separated by centerline striping. Parking is allowed. It is classified as a collector road in the Newark General Plan. The street is bordered by residential units with direct driveway access and a retail center near Newark Boulevard. There are also schools near the Thornton Avenue, Cherry Street, and Spruce Street intersections and there are yellow school crosswalks.

Speed Data

There is an existing speed limit of 25 mph. There are westbound speed limit signs located near Thornton Avenue, Newark Boulevard, Cherry Street, Haley Street, and Spruce Street. There are eastbound speed limits near Spruce Street, Haley Street, Cherry Street, and Newark Boulevard. The measured 85th-percentile speed was recorded as follows:

	Speed <u>Limit</u>	85 th % <u>Speed</u>	Recommended <u>Speed Limit</u>
<u>Mayhews Landing Road:</u> Thornton Ave. to Willow St.	25 mph	32.0 mph	25 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 25 mph. The road is in a residential district (CVC Section 22352: prima facie speed limit of 25 mph). The residential unit density also meets the standard for consideration in setting the speed limit (CVC Section 627). Additional factors include adjacent residences with traffic turning in and backing out of driveways, and nearby schools with associated pedestrian and bicycle activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 30 mph be implemented, resulting in a 25 mph speed limit.

Improvements

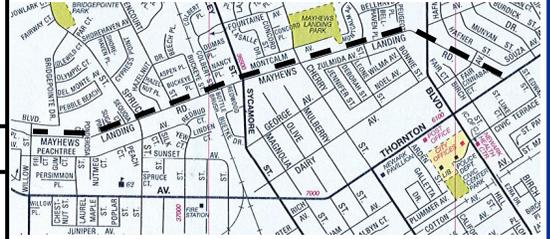
There is no eastbound speed limit sign near Willow Street (it appears a previous sign is missing). Speed limit signs are not required since the roadway is in a residential district (prima facie speed limit of 25 mph). However, there are speed limit signs located on Mayhews Landing Road at other major cross-streets, therefore it is recommended that an eastbound 25 mph speed limit sign be installed east of Willow Street.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: MAYHEWS LANDING ROAD
Limits: between Thornton Avenue and Willow Street

SPEED DATA

Location of Survey: between Cherry St. and Sycamore St.
Date Taken: 9/13/17
Existing Speed Limit: 25 mph
85th Percentile Speed: 32.0 mph
10-mph Pace Speed: 25-34 mph
% Vehicles in Pace/Above/Below: 82% / 6% / 12%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 14 ('12 = 4, '13 = 1, '14 = 3, '15 = 3, '16 = 3)
Speed Related Accidents: Total = 3 ('12 = 0, '13 = 1, '14 = 0, '15 = 1, '16 = 1)
Accident Rate (accs. per million vehicle miles): 1.17 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 1.62 mile
Average Daily Traffic: 4,040 ADT
Street Classification: Collector
No. of lanes: 2 lanes with center line striping.
Roadway Characteristics: Mostly straight with horizontal curves near Dijon Drive and Sugar Pine Court; street parking allowed.
Adjacent Land Use: Residential with direct driveway access and a retail center near Newark Boulevard.
Other Conditions: Schools located near Thornton Avenue, Cherry Street, and Spruce Street, with yellow school crosswalks at nearby intersections.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential district (CVC Section 22352: prima facie speed limit of 25 mph), and residential unit density which meets the standard for consideration in setting the speed limit, residential driveways with traffic turning in and out, and nearby schools, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 30 mph, resulting in a 25 mph speed limit.

Recommended Speed Limit = 25 mph

Existing Speed Limit = 25 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

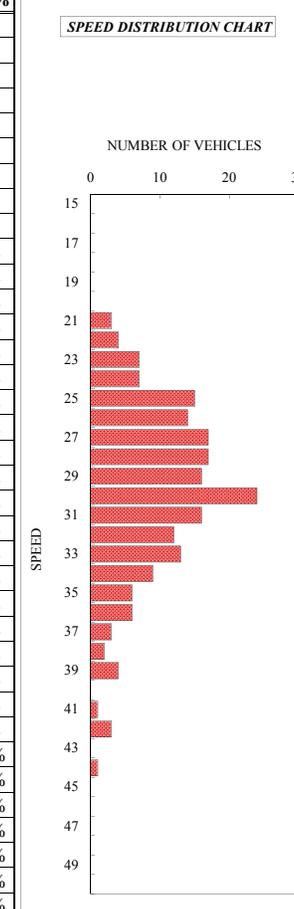
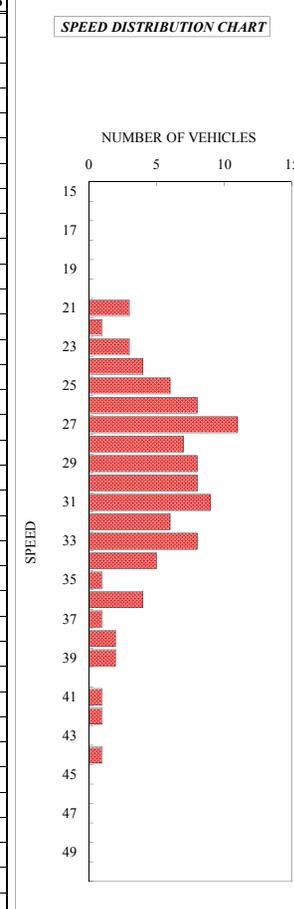
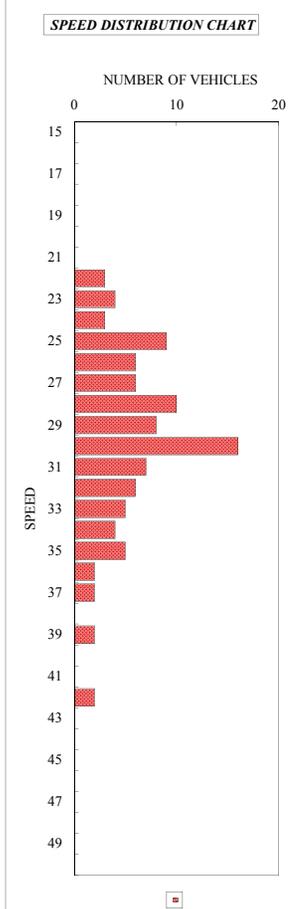
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/24/2017 DAY: THURSDAY TIME: 3:00-4:45PM

29. MAYHEWS LANDING ROAD BETWEEN THORNTON AVENUE & WILLOW STREET

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%									
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	3	3.0%	3.0%	21 mph	3	1.5%	1.5%									
22 mph	3	3.0%	3.0%	22 mph	1	1.0%	4.0%	22 mph	4	2.0%	3.5%									
23 mph	4	4.0%	7.0%	23 mph	3	3.0%	7.0%	23 mph	7	3.5%	7.0%									
24 mph	3	3.0%	10.0%	24 mph	4	4.0%	11.0%	24 mph	7	3.5%	10.5%									
25 mph	9	9.0%	19.0%	25 mph	6	6.0%	17.0%	25 mph	15	7.5%	18.0%									
26 mph	6	6.0%	25.0%	26 mph	8	8.0%	25.0%	26 mph	14	7.0%	25.0%									
27 mph	6	6.0%	31.0%	27 mph	11	11.0%	36.0%	27 mph	17	8.5%	33.5%									
28 mph	10	10.0%	41.0%	28 mph	7	7.0%	43.0%	28 mph	17	8.5%	42.0%									
29 mph	8	8.0%	49.0%	29 mph	8	8.0%	51.0%	29 mph	16	8.0%	50.0%									
30 mph	16	16.0%	65.0%	30 mph	8	8.0%	59.0%	30 mph	24	12.0%	62.0%									
31 mph	7	7.0%	72.0%	31 mph	9	9.0%	68.0%	31 mph	16	8.0%	70.0%									
32 mph	6	6.0%	78.0%	32 mph	6	6.0%	74.0%	32 mph	12	6.0%	76.0%									
33 mph	5	5.0%	83.0%	33 mph	8	8.0%	82.0%	33 mph	13	6.5%	82.5%									
34 mph	4	4.0%	87.0%	34 mph	5	5.0%	87.0%	34 mph	9	4.5%	87.0%									
35 mph	5	5.0%	92.0%	35 mph	1	1.0%	88.0%	35 mph	6	3.0%	90.0%									
36 mph	2	2.0%	94.0%	36 mph	4	4.0%	92.0%	36 mph	6	3.0%	93.0%									
37 mph	2	2.0%	96.0%	37 mph	1	1.0%	93.0%	37 mph	3	1.5%	94.5%									
38 mph	0	0.0%	96.0%	38 mph	2	2.0%	95.0%	38 mph	2	1.0%	95.5%									
39 mph	2	2.0%	98.0%	39 mph	2	2.0%	97.0%	39 mph	4	2.0%	97.5%									
40 mph	0	0.0%	98.0%	40 mph	0	0.0%	97.0%	40 mph	0	0.0%	97.5%									
41 mph	0	0.0%	98.0%	41 mph	1	1.0%	98.0%	41 mph	1	0.5%	98.0%									
42 mph	2	2.0%	100.0%	42 mph	1	1.0%	99.0%	42 mph	3	1.5%	99.5%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	99.0%	43 mph	0	0.0%	99.5%									
44 mph	0	0.0%	100.0%	44 mph	1	1.0%	100.0%	44 mph	1	0.5%	100.0%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	29.6	TOTAL:	100	100.0%		AVERAGE SPEED:	29.8	TOTAL:	200	100.0%		AVERAGE SPEED:	29.7			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	24.9	25.0	26.8	30.0	34.0	35.0	SPEEDS:	24.0	25.0	26.8	29.0	34.0	36.0	SPEEDS:	24.0	25.0	26.8	29.5	34.0	35.1
10 MPH PACE SPEED	25-34	NUMBER IN PACE	77	PERCENT:	77.0%	10 MPH PACE SPEED	25-34	NUMBER IN PACE	76	PERCENT:	76.0%	10 MPH PACE SPEED	25-34	NUMBER IN PACE	153	PERCENT:	76.5%			
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	100	81	35	8	2	0	TOTAL:	100	83	41	12	3	0	TOTAL:	200	164	76	20	5	0
PERCENTAGE:	100.0%	81.0%	35.0%	8.0%	2.0%	0.0%	PERCENTAGE:	100.0%	83.0%	41.0%	12.0%	3.0%	0.0%	PERCENTAGE:	100.0%	82.0%	38.0%	10.0%	2.5%	0.0%



30. Mowry School Road (between Balentine Dr. and Cedar Blvd.)

This segment of Mowry School Road extends in a primarily east-west direction between Balentine Drive and Cedar Boulevard. It has two travel lanes with striped centerlines and left turn pockets. It is broadly curved in the middle of the segment. Parking is allowed in some locations. It is classified as a local road in the Newark General Plan. The road is located in a commercial area and is bordered by a retail center on the south side and an office complex and multi-unit residential complex on the north side.

Speed Data

There is an existing posted speed limit of 30 mph. There is an eastbound sign located near Cedar Boulevard and a westbound sign near Balentine Drive. The measured 85th-percentile speed was recorded as follows:

<u>Mowry School Road:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Balentine Dr. to Cedar Blvd.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	30 mph	32.0 mph	30 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 30 mph.

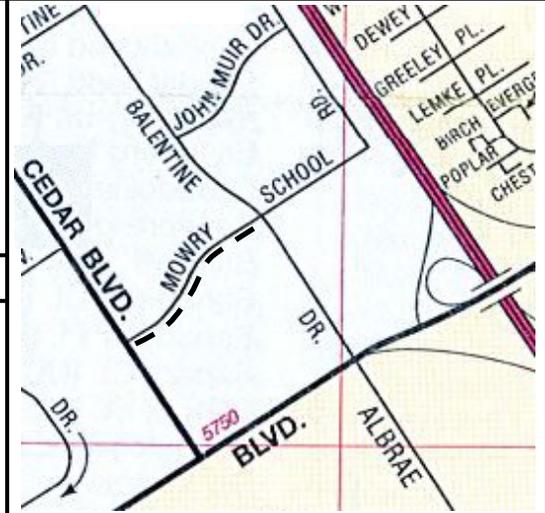
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: MOWRY SCHOOL ROAD
Limits: between Balentine Drive and Cedar Boulevard

SPEED DATA

Location of Survey: between Balentine Dr. and Cedar Blvd.
Date Taken: 8/15/17
Existing Speed Limit: 30 mph
85th Percentile Speed: 32.0 mph
10-mph Pace Speed: 24-33 mph
% Vehicles in Pace/Above/Below: 82% / 7% / 11%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 1 ('12 = 0, '13 = 0, '14 = 0, '15 = 1, '16 = 0)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 2.26 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.21 mile
Average Daily Traffic: 1,155 ADT
Street Classification: Local
No. of lanes: 2 lanes with striped center lines.
Roadway Characteristics: Horizontal curves in middle of the segment; parking is allowed in some sections.
Adjacent Land Use: Retail center on the south side and an office complex and multi-unit residential complex on the north side.
Other Conditions: Traffic turning in and out of driveways.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, it is recommended that the speed limit be maintained at 30 mph.

Recommended Speed Limit = 30 mph

Existing Speed Limit = 30 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

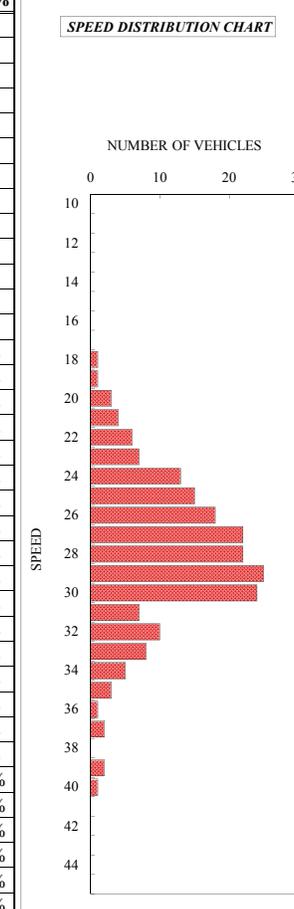
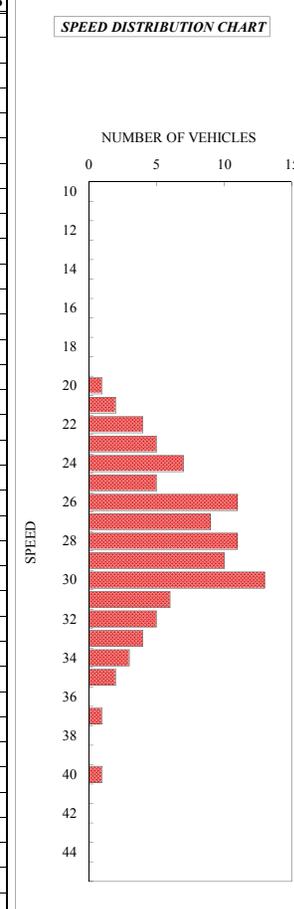
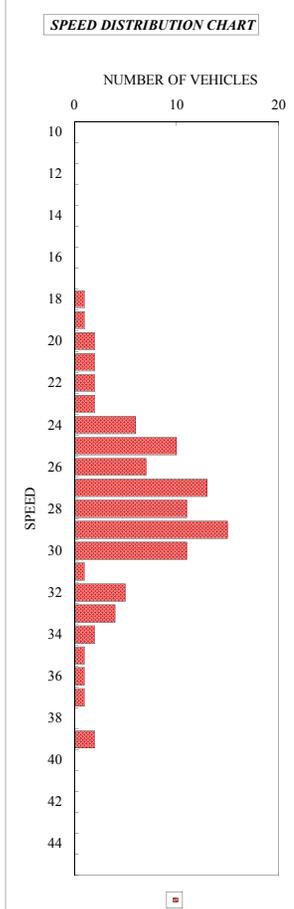
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/15/2017 DAY: TUESDAY TIME: 4:30-6:15PM

30. MOWRY SCHOOL ROAD BETWEEN BALENTINE DRIVE & CEDAR BOULEVARD

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED							
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %				
10 mph	0	0.0%	0.0%	10 mph	0	0.0%	0.0%	10 mph	0	0.0%	0.0%				
11 mph	0	0.0%	0.0%	11 mph	0	0.0%	0.0%	11 mph	0	0.0%	0.0%				
12 mph	0	0.0%	0.0%	12 mph	0	0.0%	0.0%	12 mph	0	0.0%	0.0%				
13 mph	0	0.0%	0.0%	13 mph	0	0.0%	0.0%	13 mph	0	0.0%	0.0%				
14 mph	0	0.0%	0.0%	14 mph	0	0.0%	0.0%	14 mph	0	0.0%	0.0%				
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%				
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%				
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%				
18 mph	1	1.0%	1.0%	18 mph	0	0.0%	0.0%	18 mph	1	0.5%	0.5%				
19 mph	1	1.0%	2.0%	19 mph	0	0.0%	0.0%	19 mph	1	0.5%	1.0%				
20 mph	2	2.0%	4.0%	20 mph	1	1.0%	1.0%	20 mph	3	1.5%	2.5%				
21 mph	2	2.0%	6.0%	21 mph	2	2.0%	3.0%	21 mph	4	2.0%	4.5%				
22 mph	2	2.0%	8.0%	22 mph	4	4.0%	7.0%	22 mph	6	3.0%	7.5%				
23 mph	2	2.0%	10.0%	23 mph	5	5.0%	12.0%	23 mph	7	3.5%	11.0%				
24 mph	6	6.0%	16.0%	24 mph	7	7.0%	19.0%	24 mph	13	6.5%	17.5%				
25 mph	10	10.0%	26.0%	25 mph	5	5.0%	24.0%	25 mph	15	7.5%	25.0%				
26 mph	7	7.0%	33.0%	26 mph	11	11.0%	35.0%	26 mph	18	9.0%	34.0%				
27 mph	13	13.0%	46.0%	27 mph	9	9.0%	44.0%	27 mph	22	11.0%	45.0%				
28 mph	11	11.0%	57.0%	28 mph	11	11.0%	55.0%	28 mph	22	11.0%	56.0%				
29 mph	15	15.0%	72.0%	29 mph	10	10.0%	65.0%	29 mph	25	12.5%	68.5%				
30 mph	11	11.0%	83.0%	30 mph	13	13.0%	78.0%	30 mph	24	12.0%	80.5%				
31 mph	1	1.0%	84.0%	31 mph	6	6.0%	84.0%	31 mph	7	3.5%	84.0%				
32 mph	5	5.0%	89.0%	32 mph	5	5.0%	89.0%	32 mph	10	5.0%	89.0%				
33 mph	4	4.0%	93.0%	33 mph	4	4.0%	93.0%	33 mph	8	4.0%	93.0%				
34 mph	2	2.0%	95.0%	34 mph	3	3.0%	96.0%	34 mph	5	2.5%	95.5%				
35 mph	1	1.0%	96.0%	35 mph	2	2.0%	98.0%	35 mph	3	1.5%	97.0%				
36 mph	1	1.0%	97.0%	36 mph	0	0.0%	98.0%	36 mph	1	0.5%	97.5%				
37 mph	1	1.0%	98.0%	37 mph	1	1.0%	99.0%	37 mph	2	1.0%	98.5%				
38 mph	0	0.0%	98.0%	38 mph	0	0.0%	99.0%	38 mph	0	0.0%	98.5%				
39 mph	2	2.0%	100.0%	39 mph	0	0.0%	99.0%	39 mph	2	1.0%	99.5%				
40 mph	0	0.0%	100.0%	40 mph	1	1.0%	100.0%	40 mph	1	0.5%	100.0%				
41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%				
42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%				
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%				
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%				
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%				
TOTAL:	100	100.0%		TOTAL:	100	100.0%		TOTAL:	200	100.0%					
AVERAGE SPEED: 27.9				AVERAGE SPEED: 28.0				AVERAGE SPEED: 27.9							
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%	
SPEEDS:	23.9	24.0	25.0	28.0	32.0	33.0		SPEEDS:	23.0	24.0	25.8	28.0	32.0	33.0	
10 MPH PACE SPEED	24-33	NUMBER IN PACE		83	PERCENT:	83.0%		10 MPH PACE SPEED	24-32	NUMBER IN PACE		82	PERCENT:	82.0%	
SPEED EXCEEDED:	15 MPH	20 MPH	25MPH	30 MPH	35 MPH	40 MPH		SPEED EXCEEDED:	15 MPH	20 MPH	25MPH	30 MPH	35 MPH	40 MPH	
TOTAL:	100	96	74	17	4	0		TOTAL:	100	99	76	22	2	0	
PERCENTAGE:	100.0%	96.0%	74.0%	17.0%	4.0%	0.0%		PERCENTAGE:	100.0%	99.0%	76.0%	22.0%	2.0%	0.0%	



31. Mowry Avenue (between I-880 and West City Limits)

This segment of Mowry Avenue extends in a primarily east-west direction from I-880 to its terminus west of Cherry Street. It is mostly straight except for a broad curve near I-880 where it crosses over the freeway. It consists of six through lanes from I-880 to Cedar Boulevard, then four lanes to Cherry Street separated by raised center medians. Mowry Avenue narrows to three lanes west of Cherry Street (two westbound and one eastbound) separated by a two-way left turn lane. It then narrows to two lanes west of a railroad crossing to its terminus. There are striped bicycle lanes and a shoulder/parking lane between Cherry Street and the railroad crossing. Street parking is only allowed west of Cherry Street. There are signalized controls at major cross-streets and stop sign controls at other intersection approaches. It is classified as an arterial road in the Newark General Plan. The segment is bordered by commercial businesses between I-880 and Cedar Boulevard, including the NewPark Mall, then residential units to Cherry Street (no direct access). West of Cherry Street there is a warehouse complex on the north side and a community recreation center on the south side.

Speed Data

There is an existing speed limit of 35 mph. There are westbound speed limit signs located near I-880, Cedar Boulevard, and Cherry Street. There are eastbound speed limit signs near the railroad crossing, Cherry Street, and Cedar Boulevard. The measured 85th-percentile speed was recorded as follows:

<u>Mowry Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>I-880 to West City Limits</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	35 mph	39.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The combination of higher speed vehicles and lower speed trucks, including trucks turning in and out of the warehouse driveways, and the proximity of the recreation center with associated pedestrian activity warrants implementation of an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

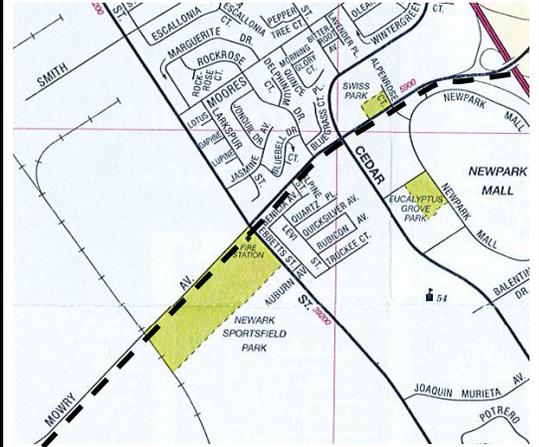
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: MOWRY AVENUE
Limits: between I-880 and West City Limits

SPEED DATA

Location of Survey: between Cedar Blvd. and Cherry St.
Date Taken: 8/15/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 39.0 mph
10-mph Pace Speed: 29-38 mph
% Vehicles in Pace/Above/Below: 69% / 18% / 13%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 22 ('12 = 4, '13 = 5, '14 = 4, '15 = 5, '16 = 4)
Speed Related Accidents: Total = 13 ('12 = 1, '13 = 2, '14 = 2, '15 = 5, '16 = 3)
Accident Rate (accs. per million vehicle miles): 0.30 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 1.61 mile
Average Daily Traffic: 24,651 ADT
Street Classification: Arterial
No. of lanes: 4-6 lanes east of Cherry Street and 2-3 lanes west of Cherry Street.
Roadway Characteristics: Mostly straight, with curved section near I-880; striped bicycle lanes between Cherry Street and railroad crossing; street parking allowed on south side between Cherry Street and railroad crossing.
Adjacent Land Use: Commercial businesses I-880 to Cedar Boulevard; residential (no direct access) between Cedar Boulevard and Cherry Street; warehouse and community recreation center west of Cherry Street.
Other Conditions: Trucks turning in and out of warehouse complex.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include truck traffic turning in and out of the warehouse driveways, and recreation center with associated pedestrian activity, it is recommended an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

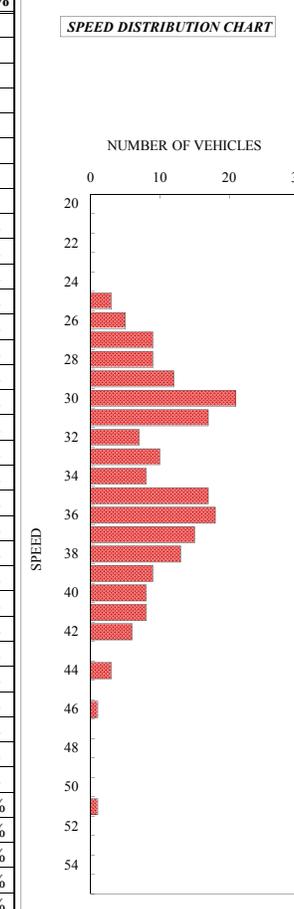
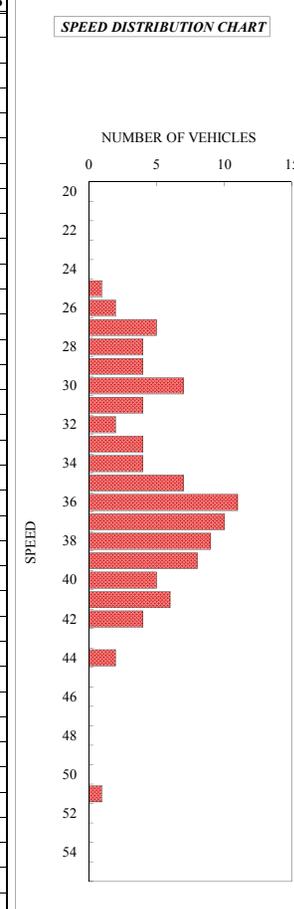
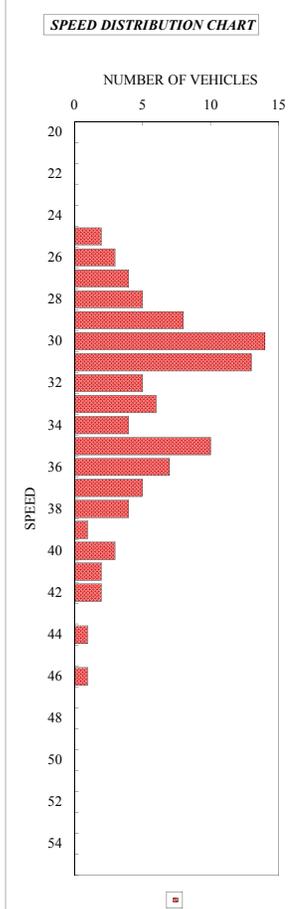
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/15/2017 DAY: TUESDAY TIME: 12:55-2:25PM

31. MOWRY AVENUE BETWEEN I-880 FREEWAY & WEST CITY LIMITS

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%									
25 mph	2	2.0%	2.0%	25 mph	1	1.0%	1.0%	25 mph	3	1.5%	1.5%									
26 mph	3	3.0%	5.0%	26 mph	2	2.0%	3.0%	26 mph	5	2.5%	4.0%									
27 mph	4	4.0%	9.0%	27 mph	5	5.0%	8.0%	27 mph	9	4.5%	8.5%									
28 mph	5	5.0%	14.0%	28 mph	4	4.0%	12.0%	28 mph	9	4.5%	13.0%									
29 mph	8	8.0%	22.0%	29 mph	4	4.0%	16.0%	29 mph	12	6.0%	19.0%									
30 mph	14	14.0%	36.0%	30 mph	7	7.0%	23.0%	30 mph	21	10.5%	29.5%									
31 mph	13	13.0%	49.0%	31 mph	4	4.0%	27.0%	31 mph	17	8.5%	38.0%									
32 mph	5	5.0%	54.0%	32 mph	2	2.0%	29.0%	32 mph	7	3.5%	41.5%									
33 mph	6	6.0%	60.0%	33 mph	4	4.0%	33.0%	33 mph	10	5.0%	46.5%									
34 mph	4	4.0%	64.0%	34 mph	4	4.0%	37.0%	34 mph	8	4.0%	50.5%									
35 mph	10	10.0%	74.0%	35 mph	7	7.0%	44.0%	35 mph	17	8.5%	59.0%									
36 mph	7	7.0%	81.0%	36 mph	11	11.0%	55.0%	36 mph	18	9.0%	68.0%									
37 mph	5	5.0%	86.0%	37 mph	10	10.0%	65.0%	37 mph	15	7.5%	75.5%									
38 mph	4	4.0%	90.0%	38 mph	9	9.0%	74.0%	38 mph	13	6.5%	82.0%									
39 mph	1	1.0%	91.0%	39 mph	8	8.0%	82.0%	39 mph	9	4.5%	86.5%									
40 mph	3	3.0%	94.0%	40 mph	5	5.0%	87.0%	40 mph	8	4.0%	90.5%									
41 mph	2	2.0%	96.0%	41 mph	6	6.0%	93.0%	41 mph	8	4.0%	94.5%									
42 mph	2	2.0%	98.0%	42 mph	4	4.0%	97.0%	42 mph	6	3.0%	97.5%									
43 mph	0	0.0%	98.0%	43 mph	0	0.0%	97.0%	43 mph	0	0.0%	97.5%									
44 mph	1	1.0%	99.0%	44 mph	2	2.0%	99.0%	44 mph	3	1.5%	99.0%									
45 mph	0	0.0%	99.0%	45 mph	0	0.0%	99.0%	45 mph	0	0.0%	99.0%									
46 mph	1	1.0%	100.0%	46 mph	0	0.0%	99.0%	46 mph	1	0.5%	99.5%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	99.0%	47 mph	0	0.0%	99.5%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	99.0%	48 mph	0	0.0%	99.5%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	99.0%	49 mph	0	0.0%	99.5%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	99.0%	50 mph	0	0.0%	99.5%									
51 mph	0	0.0%	100.0%	51 mph	1	1.0%	100.0%	51 mph	1	0.5%	100.0%									
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%									
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%									
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%									
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	32.8	TOTAL:	100	100.0%		AVERAGE SPEED:	35.2	TOTAL:	200	100.0%		AVERAGE SPEED:	34.0			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	28.0	29.0	30.0	32.0	37.0	38.1	SPEEDS:	28.0	29.0	31.0	36.0	40.0	41.0	SPEEDS:	28.0	29.0	30.0	34.0	39.0	40.0
10 MPH PACE SPEED	28-37	NUMBER IN PACE		77	PERCENT:	77.0%	10 MPH PACE SPEED	33-42	NUMBER IN PACE		68	PERCENT:	68.0%	10 MPH PACE SPEED	29-38	NUMBER IN PACE		138	PERCENT:	69.0%
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	98	64	26	6	1	0	TOTAL:	99	77	56	13	1	1	TOTAL:	197	141	82	19	2	1
PERCENTAGE:	98.0%	64.0%	26.0%	6.0%	1.0%	0.0%	PERCENTAGE:	99.0%	77.0%	56.0%	13.0%	1.0%	1.0%	PERCENTAGE:	98.5%	70.5%	41.0%	9.5%	1.0%	0.5%



32. Newark Boulevard (between State Route 84 and Central Ave.)

Newark Boulevard extends south from State Route 84 then curves west near Lafayette Avenue, then curves south again near Thornton Avenue to Central Avenue. It consists of four through lanes separated by raised center medians except for a short section between Jarvis Avenue and Route 84 where it consists of six lanes. There are striped bicycle lanes in some sections and parking is allowed in some sections. It is classified as an arterial road in the Newark General Plan. The road is bordered by retail businesses between Route 84 and Cedar Boulevard, then a mix of residential units (some with direct driveway access), retail businesses, and offices between Cedar Boulevard and Central Avenue. There is a community park near Cedar Boulevard and a school near Lafayette Avenue.

Speed Data

There is an existing posted speed limit of 35 mph. There are southbound speed limits signs located near Route 84, Jarvis Avenue, Ruschin Drive (Brittany Avenue), Lafayette Avenue, Mayhews Landing, and Thornton Avenue. There are northbound signs located near Central Avenue, Thornton Avenue, Musick Avenue, Lafayette Avenue, and Jarvis Avenue. The measured 85th-percentile speed was recorded as follows:

	Speed <u>Limit</u>	85 th % <u>Speed</u>	Recommended <u>Speed Limit</u>
<u>Newark Boulevard:</u> Route 84 to Central Avenue	35 mph	41.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The road is in a residential area and the residential unit density meets the standard for consideration in setting the speed limit (CVC Section 627). Other factors include direct residential access with traffic turning in and backing out of driveways, street parking activity, and proximity of the park and school with associated pedestrian and bicycle activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph be implemented, resulting in a 35 mph speed limit.

Improvements

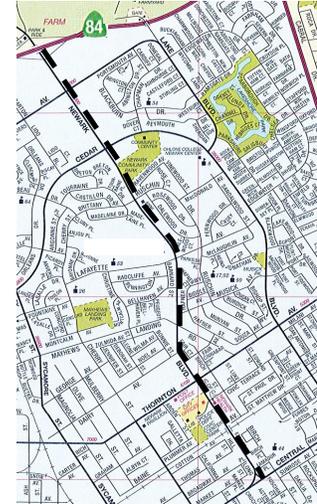
It appears a northbound speed limit sign was previously located north of Cedar Boulevard, which is now missing. Therefore, consideration could be given to installing a northbound sign at this location. And/or consideration could be given to installing a northbound speed limit sign near Ruschin Drive (in the vicinity of an existing southbound sign).

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: NEWARK BOULEVARD
Limits: between State Route 84 and Central Avenue

SPEED DATA

Location of Survey: between Brittany Ave. and Lafayette Ave.
Date Taken: 9/13/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 41.0 mph
10-mph Pace Speed: 32-41 mph
% Vehicles in Pace/Above/Below: 77% / 10% / 13%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 57 ('12 = 8, '13 = 11, '14 = 6, '15 = 20, '16 = 12)
Speed Related Accidents: Total = 14 ('12 = 4, '13 = 3, '14 = 0, '15 = 3, '16 = 4)
Accident Rate (accs. per million vehicle miles): 0.70 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 2.17 mile
Average Daily Traffic: 20,699 ADT
Street Classification: Arterial
No. of lanes: 4 lanes Central Avenue to Jarvis Avenue; 6 lanes Jarvis Avenue to Route 84.
Roadway Characteristics: Mix of horizontal curves and straight sections; street parking allowed on some sections.
Adjacent Land Use: Retail between Route 84 and Cedar Boulevard; mix of retail, office, and residential with direct driveway access between Cedar Boulevard and Central Avenue.
Other Conditions: Community park near Cedar Boulevard and school near Lafayette Avenue with school crosswalks.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential area with unit density which meets the standard for consideration in setting the speed limit (CVC Section 627); vehicles turning in and backing out of driveways, street parking activity, and nearby park and school with associated pedestrian activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

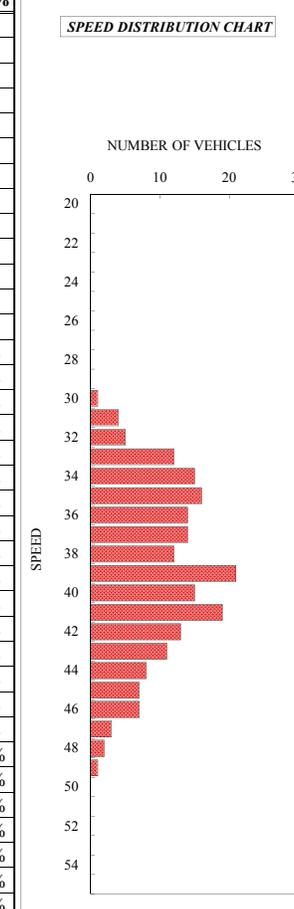
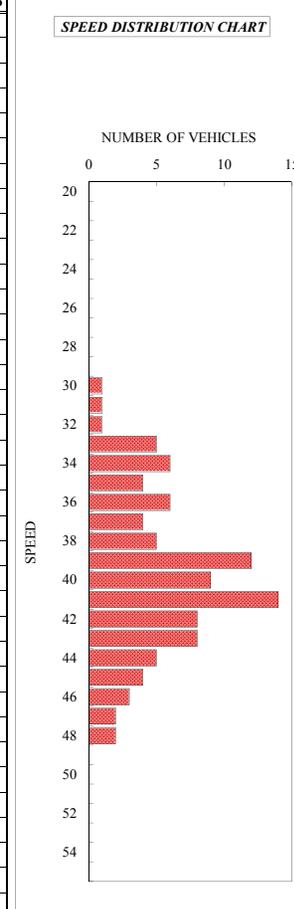
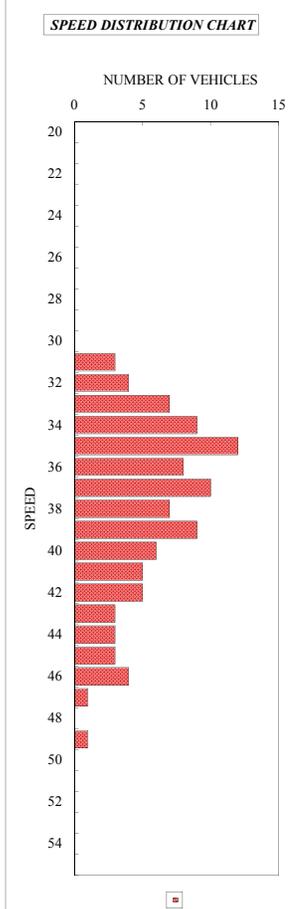
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/24/2017 DAY: THURSDAY TIME: 1:15-2:45PM

32. NEWARK BOULEVARD BETWEEN ROUTE 84 FREEWAY & CENTRAL AVENUE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%									
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%									
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%									
27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%									
28 mph	0	0.0%	0.0%	28 mph	0	0.0%	0.0%	28 mph	0	0.0%	0.0%									
29 mph	0	0.0%	0.0%	29 mph	0	0.0%	0.0%	29 mph	0	0.0%	0.0%									
30 mph	0	0.0%	0.0%	30 mph	1	1.0%	1.0%	30 mph	1	0.5%	0.5%									
31 mph	3	3.0%	3.0%	31 mph	1	1.0%	2.0%	31 mph	4	2.0%	2.5%									
32 mph	4	4.0%	7.0%	32 mph	1	1.0%	3.0%	32 mph	5	2.5%	5.0%									
33 mph	7	7.0%	14.0%	33 mph	5	5.0%	8.0%	33 mph	12	6.0%	11.0%									
34 mph	9	9.0%	23.0%	34 mph	6	6.0%	14.0%	34 mph	15	7.5%	18.5%									
35 mph	12	12.0%	35.0%	35 mph	4	4.0%	18.0%	35 mph	16	8.0%	26.5%									
36 mph	8	8.0%	43.0%	36 mph	6	6.0%	24.0%	36 mph	14	7.0%	33.5%									
37 mph	10	10.0%	53.0%	37 mph	4	4.0%	28.0%	37 mph	14	7.0%	40.5%									
38 mph	7	7.0%	60.0%	38 mph	5	5.0%	33.0%	38 mph	12	6.0%	46.5%									
39 mph	9	9.0%	69.0%	39 mph	12	12.0%	45.0%	39 mph	21	10.5%	57.0%									
40 mph	6	6.0%	75.0%	40 mph	9	9.0%	54.0%	40 mph	15	7.5%	64.5%									
41 mph	5	5.0%	80.0%	41 mph	14	14.0%	68.0%	41 mph	19	9.5%	74.0%									
42 mph	5	5.0%	85.0%	42 mph	8	8.0%	76.0%	42 mph	13	6.5%	80.5%									
43 mph	3	3.0%	88.0%	43 mph	8	8.0%	84.0%	43 mph	11	5.5%	86.0%									
44 mph	3	3.0%	91.0%	44 mph	5	5.0%	89.0%	44 mph	8	4.0%	90.0%									
45 mph	3	3.0%	94.0%	45 mph	4	4.0%	93.0%	45 mph	7	3.5%	93.5%									
46 mph	4	4.0%	98.0%	46 mph	3	3.0%	96.0%	46 mph	7	3.5%	97.0%									
47 mph	1	1.0%	99.0%	47 mph	2	2.0%	98.0%	47 mph	3	1.5%	98.5%									
48 mph	0	0.0%	99.0%	48 mph	2	2.0%	100.0%	48 mph	2	1.0%	99.5%									
49 mph	1	1.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	1	0.5%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%									
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%									
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%									
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%									
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	37.8	TOTAL:	100	100.0%		AVERAGE SPEED:	39.7	TOTAL:	200	100.0%		AVERAGE SPEED:	38.8			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	33.0	34.0	35.0	37.0	42.2	44.0	SPEEDS:	34.0	35.0	37.0	40.0	44.0	45.0	SPEEDS:	33.0	34.0	35.0	39.0	43.0	44.1
10 MPH PACE SPEED	33-42	NUMBER IN PACE	78	PERCENT	78.0%	10 MPH PACE SPEED	34-43	NUMBER IN PACE	76	PERCENT	76.0%	10 MPH PACE SPEED	33-42	NUMBER IN PACE	151	PERCENT	75.5%			
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	100	100	65	25	6	0	TOTAL:	100	99	82	46	7	0	TOTAL:	200	199	147	71	13	0
PERCENTAGE:	100.0%	100.0%	65.0%	25.0%	6.0%	0.0%	PERCENTAGE:	100.0%	99.0%	82.0%	46.0%	7.0%	0.0%	PERCENTAGE:	100.0%	99.5%	73.5%	35.5%	6.5%	0.0%



33. Parkshore Drive (between Lake Blvd. and Edgewater Dr.)

Parkshore Drive is oriented in a primarily north-south direction between Lake Boulevard and Edgewater Drive. It is a two lane road separated by raised center medians. It is straight from Edgewater Drive to Rockport Court, then curves to Lake Boulevard. Parking is allowed. It is classified as a local road in the Newark General Plan. The road extends through a residential neighborhood, but there is no direct driveway access. There is a school located one block west near Lake Boulevard.

Speed Data

The segment has a posted speed limit of 30 mph. There is a southbound sign south of Lake Boulevard and a northbound sign north of Edgewater Drive.

The measured 85th-percentile speed was recorded as follows:

<u>Parkshore Drive:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Lake Blvd. to Edgewater Dr.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	30 mph	36.0 mph	30 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 30 mph. The road is in a residential area with nearby school and associated pedestrian and bicycle activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 35 mph be implemented, resulting in a 30 mph speed limit.

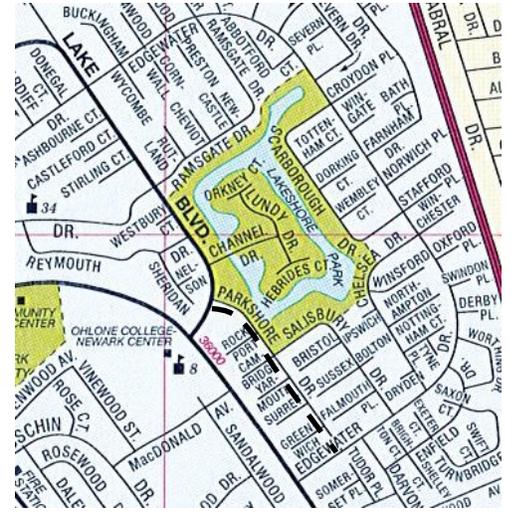
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **PARKSHORE DRIVE**
Limits: **between Lake Boulevard and Edgewater Drive**

SPEED DATA

Location of Survey: between Salisbury Dr. and Edgewater Dr.
Date Taken: 8/16/17
Existing Speed Limit: 30 mph
85th Percentile Speed: 36.0 mph
10-mph Pace Speed: 26-35 mph
% Vehicles in Pace/Above/Below: 79% / 16% / 5%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 1 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 1)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 1.64 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.32 mile
Average Daily Traffic: 1,047 ADT
Street Classification: Local
No. of lanes: 2 lanes with center medians.
Roadway Characteristics: Straight between Edgewater Drive and Rockport Court, then horizontal curve to Lake Boulevard.
Adjacent Land Use: Residential neighborhood, but no direct driveway access.
Other Conditions: School located to the west on Cedar Boulevard.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential neighborhood and nearby school with associated pedestrian activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 35 mph, resulting in a 30 mph speed limit.

Recommended Speed Limit = 30 mph

Existing Speed Limit = 30 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

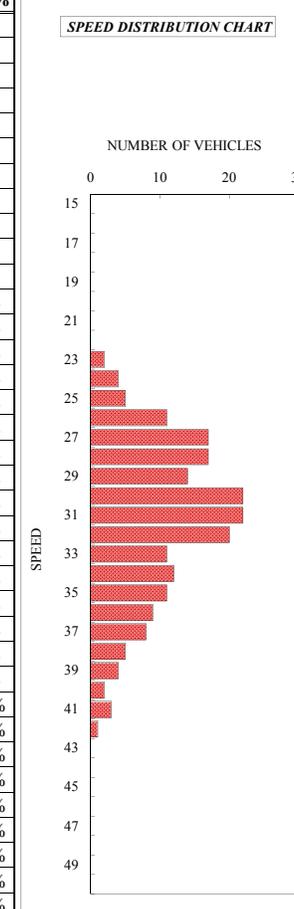
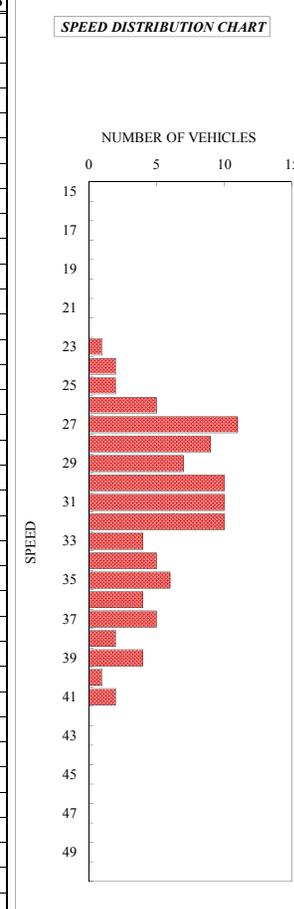
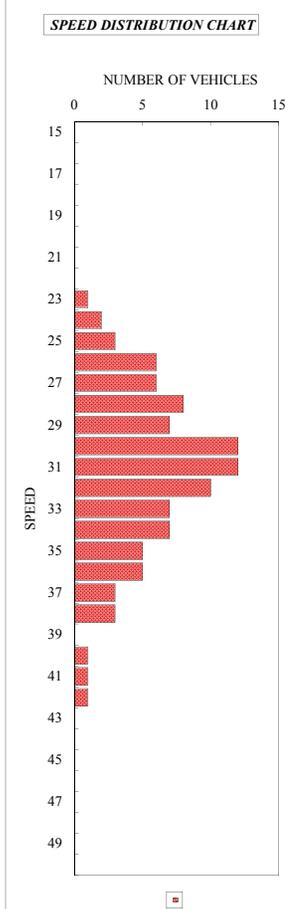
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/16/2017 DAY: WEDNESDAY TIME: 1:15-2:45PM

33. PARKSHORE DRIVE BETWEEN LAKE BOULEVARD & EDGEWATER DRIVE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%									
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	1	1.0%	1.0%	23 mph	1	1.0%	1.0%	23 mph	2	1.0%	1.0%									
24 mph	2	2.0%	3.0%	24 mph	2	2.0%	3.0%	24 mph	4	2.0%	3.0%									
25 mph	3	3.0%	6.0%	25 mph	2	2.0%	5.0%	25 mph	5	2.5%	5.5%									
26 mph	6	6.0%	12.0%	26 mph	5	5.0%	10.0%	26 mph	11	5.5%	11.0%									
27 mph	6	6.0%	18.0%	27 mph	11	11.0%	21.0%	27 mph	17	8.5%	19.5%									
28 mph	8	8.0%	26.0%	28 mph	9	9.0%	30.0%	28 mph	17	8.5%	28.0%									
29 mph	7	7.0%	33.0%	29 mph	7	7.0%	37.0%	29 mph	14	7.0%	35.0%									
30 mph	12	12.0%	45.0%	30 mph	10	10.0%	47.0%	30 mph	22	11.0%	46.0%									
31 mph	12	12.0%	57.0%	31 mph	10	10.0%	57.0%	31 mph	22	11.0%	57.0%									
32 mph	10	10.0%	67.0%	32 mph	10	10.0%	67.0%	32 mph	20	10.0%	67.0%									
33 mph	7	7.0%	74.0%	33 mph	4	4.0%	71.0%	33 mph	11	5.5%	72.5%									
34 mph	7	7.0%	81.0%	34 mph	5	5.0%	76.0%	34 mph	12	6.0%	78.5%									
35 mph	5	5.0%	86.0%	35 mph	6	6.0%	82.0%	35 mph	11	5.5%	84.0%									
36 mph	5	5.0%	91.0%	36 mph	4	4.0%	86.0%	36 mph	9	4.5%	88.5%									
37 mph	3	3.0%	94.0%	37 mph	5	5.0%	91.0%	37 mph	8	4.0%	92.5%									
38 mph	3	3.0%	97.0%	38 mph	2	2.0%	93.0%	38 mph	5	2.5%	95.0%									
39 mph	0	0.0%	97.0%	39 mph	4	4.0%	97.0%	39 mph	4	2.0%	97.0%									
40 mph	1	1.0%	98.0%	40 mph	1	1.0%	98.0%	40 mph	2	1.0%	98.0%									
41 mph	1	1.0%	99.0%	41 mph	2	2.0%	100.0%	41 mph	3	1.5%	99.5%									
42 mph	1	1.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	1	0.5%	100.0%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%									
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	31.2	TOTAL:	100	100.0%		AVERAGE SPEED:	31.3	TOTAL:	200	100.0%		AVERAGE SPEED:	31.2			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	26.0	27.0	28.0	31.0	35.0	36.0	SPEEDS:	26.9	27.0	28.0	31.0	36.0	37.0	SPEEDS:	26.0	27.0	28.0	31.0	36.0	37.0
10 MPH PACE SPEED	26-35	NUMBER IN PACE		80	PERCENT:	80.0%	10 MPH PACE SPEED	26-35	NUMBER IN PACE		77	PERCENT:	77.0%	10 MPH PACE SPEED	26-35	NUMBER IN PACE		157	PERCENT:	78.5%
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	100	94	55	14	2	0	TOTAL:	100	95	53	18	2	0	TOTAL:	200	189	108	32	4	0
PERCENTAGE:	100.0%	94.0%	55.0%	14.0%	2.0%	0.0%	PERCENTAGE:	100.0%	95.0%	53.0%	18.0%	2.0%	0.0%	PERCENTAGE:	100.0%	94.5%	54.0%	16.0%	2.0%	0.0%



34. Smith Avenue (between Cedar Blvd. and Cherry St.)

This segment of Smith Avenue extends in a primarily east-west direction between Cedar Boulevard and Cherry Street. It is straight with two lanes separated by centerline striping. Street parking is allowed. It is classified as a collector road in the Newark General Plan. It is bordered by residential units with direct driveway access. There is also a school located on the north side and there are several intersections with yellow school crosswalks.

Speed Data

There is an existing speed limit of 25 mph. There are westbound speed limit signs located west of Cedar Boulevard and Birch Street. There are no eastbound speed limit signs. The measured 85th-percentile speeds were recorded as follows:

<u>Smith Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Cedar Blvd. to Cherry St.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	25 mph	32.0 mph	25 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 25 mph. The road is in a residential district (CVC Section 22352: prima facie speed limit of 25 mph). The residential unit density also meets the standard for consideration in setting the speed limit (CVC Section 627). Additional factors include adjacent residences with traffic turning in and backing out of driveways, and the community park and school with associated pedestrian and bicycle activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 30 mph be implemented, resulting in a 25 mph speed limit.

Improvements

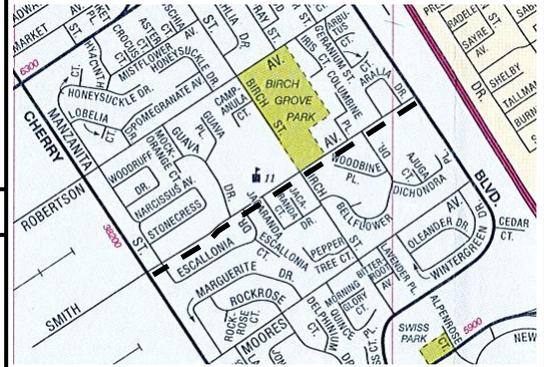
There are no eastbound speed limit signs. Speed limit signs are not required since the roadway is in a residential district (prima facie speed limit of 25 mph). However, consideration could be given to installing eastbound 25 mph speed limit signs east of Cherry Street and Birch Street.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: SMITH AVENUE
Limits: between Cedar Boulevard and Cherry Street

SPEED DATA

Location of Survey: between Bellflower Dr. and Birch St.
Date Taken: 9/13/17
Existing Speed Limit: 25 mph
85th Percentile Speed: 32.0 mph
10-mph Pace Speed: 24-33 mph
% Vehicles in Pace/Above/Below: 84% / 9% / 7%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.00 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.69 mile
Average Daily Traffic: 2,266 ADT
Street Classification: Collector
No. of lanes: 2 lanes with center line striping.
Roadway Characteristics: Straight; street parking allowed.
Adjacent Land Use: Residential with direct driveway access.
Other Conditions: Community park and school on north side with yellow school crosswalks at nearby intersections.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential district (CVC Section 22352: prima facie speed limit of 25 mph), and residential unit density which meets the standard for consideration in setting the speed limit (CVC Section 627), residential driveways with traffic turning in and out, and nearby school, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 30 mph, resulting in a 25 mph speed limit.

Recommended Speed Limit = 25 mph

Existing Speed Limit = 25 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

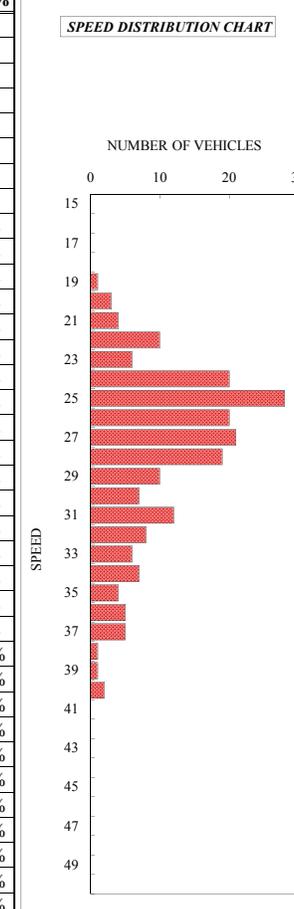
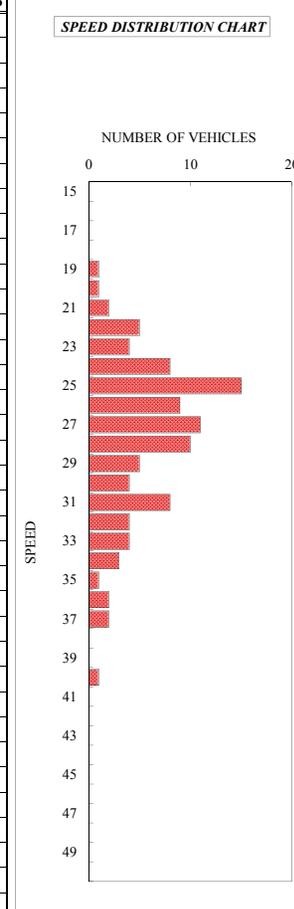
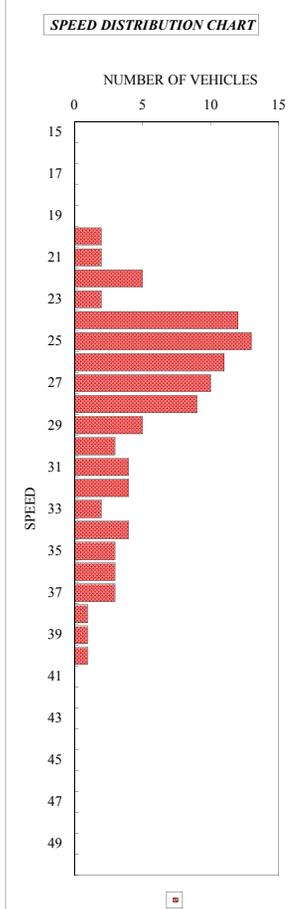
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/23/2017 DAY: WEDNESDAY TIME: 9:50-11:30AM

34. SMITH AVENUE BETWEEN CEDAR BOULEVARD & CHERRY STREET

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED														
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %											
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%											
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%											
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%											
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%											
19 mph	0	0.0%	0.0%	19 mph	1	1.0%	1.0%	19 mph	1	0.5%	0.5%											
20 mph	2	2.0%	2.0%	20 mph	1	1.0%	2.0%	20 mph	3	1.5%	2.0%											
21 mph	2	2.0%	4.0%	21 mph	2	2.0%	4.0%	21 mph	4	2.0%	4.0%											
22 mph	5	5.0%	9.0%	22 mph	5	5.0%	9.0%	22 mph	10	5.0%	9.0%											
23 mph	2	2.0%	11.0%	23 mph	4	4.0%	13.0%	23 mph	6	3.0%	12.0%											
24 mph	12	12.0%	23.0%	24 mph	8	8.0%	21.0%	24 mph	20	10.0%	22.0%											
25 mph	13	13.0%	36.0%	25 mph	15	15.0%	36.0%	25 mph	28	14.0%	36.0%											
26 mph	11	11.0%	47.0%	26 mph	9	9.0%	45.0%	26 mph	20	10.0%	46.0%											
27 mph	10	10.0%	57.0%	27 mph	11	11.0%	56.0%	27 mph	21	10.5%	56.5%											
28 mph	9	9.0%	66.0%	28 mph	10	10.0%	66.0%	28 mph	19	9.5%	66.0%											
29 mph	5	5.0%	71.0%	29 mph	5	5.0%	71.0%	29 mph	10	5.0%	71.0%											
30 mph	3	3.0%	74.0%	30 mph	4	4.0%	75.0%	30 mph	7	3.5%	74.5%											
31 mph	4	4.0%	78.0%	31 mph	8	8.0%	83.0%	31 mph	12	6.0%	80.5%											
32 mph	4	4.0%	82.0%	32 mph	4	4.0%	87.0%	32 mph	8	4.0%	84.5%											
33 mph	2	2.0%	84.0%	33 mph	4	4.0%	91.0%	33 mph	6	3.0%	87.5%											
34 mph	4	4.0%	88.0%	34 mph	3	3.0%	94.0%	34 mph	7	3.5%	91.0%											
35 mph	3	3.0%	91.0%	35 mph	1	1.0%	95.0%	35 mph	4	2.0%	93.0%											
36 mph	3	3.0%	94.0%	36 mph	2	2.0%	97.0%	36 mph	5	2.5%	95.5%											
37 mph	3	3.0%	97.0%	37 mph	2	2.0%	99.0%	37 mph	5	2.5%	98.0%											
38 mph	1	1.0%	98.0%	38 mph	0	0.0%	99.0%	38 mph	1	0.5%	98.5%											
39 mph	1	1.0%	99.0%	39 mph	0	0.0%	99.0%	39 mph	1	0.5%	99.0%											
40 mph	1	1.0%	100.0%	40 mph	1	1.0%	100.0%	40 mph	2	1.0%	100.0%											
41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%											
42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%											
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%											
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%											
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%											
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%											
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%											
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%											
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%											
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%											
TOTAL:	100	100.0%		AVERAGE SPEED:	27.9			TOTAL:	100	100.0%		AVERAGE SPEED:	27.6			TOTAL:	200	100.0%		AVERAGE SPEED:	27.7	
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	23.0	24.0	25.0	27.0	34.0	35.0		SPEEDS:	23.0	24.0	25.0	27.0	32.0	33.0		SPEEDS:	23.0	24.0	25.0	27.0	33.0	34.0
10 MPH PACE SPEED	22-31	NUMBER IN PACE		74	PERCENT:	74.0%		10 MPH PACE SPEED	22-31	NUMBER IN PACE		79	PERCENT:	79.0%		10 MPH PACE SPEED	22-31	NUMBER IN PACE		153	PERCENT:	76.5%
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH		SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH		SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	98	64	26	9	0	0		TOTAL:	98	64	25	5	0	0		TOTAL:	196	128	51	14	0	0
PERCENTAGE:	98.0%	64.0%	26.0%	9.0%	0.0%	0.0%		PERCENTAGE:	98.0%	64.0%	25.0%	5.0%	0.0%	0.0%		PERCENTAGE:	98.0%	64.0%	25.5%	7.0%	0.0%	0.0%



35. Spruce Street (between Jarvis Ave. and Wells Ave.)

Spruce Street is oriented in a primarily north-south direction between Jarvis Avenue and Wells Avenue. It extends south from Jarvis Avenue through several broad curves to Shorehaven Avenue, then continues straight until Mayhews Landing Road where it curves to Peachtree Avenue, then continues straight again to Wells Avenue. It consists of two lanes separated by centerline striping. There are speed humps on the road. Parking is allowed. It is classified as a collector road in the Newark General Plan. The street is bordered by residential units with direct driveway access. There are also schools located near Shorehaven Avenue and Thornton Avenue and there are yellow school crosswalks at several intersections.

Speed Data

There is an existing speed limit of 25 mph. There is a southbound speed limit sign located south of Jarvis Avenue and a northbound sign north of Mayhews Landing Road. There are also “Curve/25 mph” advisory speed signs in advance of a curve near Merion Drive. The measured 85th-percentile speed was recorded as follows:

<u>Spruce Street:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Jarvis Ave. to Wells Ave.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	25 mph	31.0 mph	25 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 25 mph. The road is in a residential district (CVC Section 22352: prima facie speed limit of 25 mph). The residential unit density also meets the standard for consideration in setting the speed limit (CVC Section 627). Additional factors include adjacent residences with traffic turning in and backing out of driveways, and nearby schools with associated pedestrian activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 30 mph be implemented, resulting in a 25 mph speed limit.

Improvements

There is no northbound speed limit sign near Wells Avenue. Speed limit signs are not required since the roadway is in a residential district (prima facie speed limit of 25 mph). However, consideration could be given to installing a northbound 25 mph speed limit sign north of Wells Avenue.

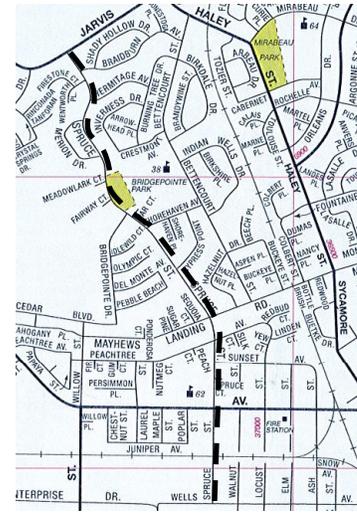
Consideration could also be given to installing a northbound 25 mph speed limit sign north of Thornton Avenue, which is in the vicinity of a school.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **SPRUCE STREET**
Limits: **between Jarvis Avenue and Wells Avenue**

SPEED DATA

Location of Survey: between Bridgepointe Dr. and Cypress Point Dr.
Date Taken: 8/17/17
Existing Speed Limit: 25 mph
85th Percentile Speed: 31.0 mph
10-mph Pace Speed: 23-32 mph
% Vehicles in Pace/Above/Below: 85% / 9% / 6%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 10 ('12 = 0, '13 = 4, '14 = 0, '15 = 3, '16 = 3)
Speed Related Accidents: Total = 3 ('12 = 0, '13 = 1, '14 = 0, '15 = 1, '16 = 1)
Accident Rate (accs. per million vehicle miles): 2.45 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 1.37 mile
Average Daily Traffic: 1,633 ADT
Street Classification: Collector
No. of lanes: 2 lanes with center line striping.
Roadway Characteristics: Combination of straight sections and horizontal curves; there are speed humps located at intervals along the road; street parking is allowed.
Adjacent Land Use: Residential with direct driveway access.
Other Conditions: Schools located near Shorehaven Avenue and Thornton Avenue with yellow school crosswalks at nearby intersections.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential district (CVC Section 22352: prima facie speed limit of 25 mph), and residential unit density which meets the standard for consideration in setting the speed limit (CVC Section 627), residential driveways with traffic turning in and out, and nearby schools, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 30 mph, resulting in a 25 mph speed limit.

Recommended Speed Limit = 25 mph

Existing Speed Limit = 25 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

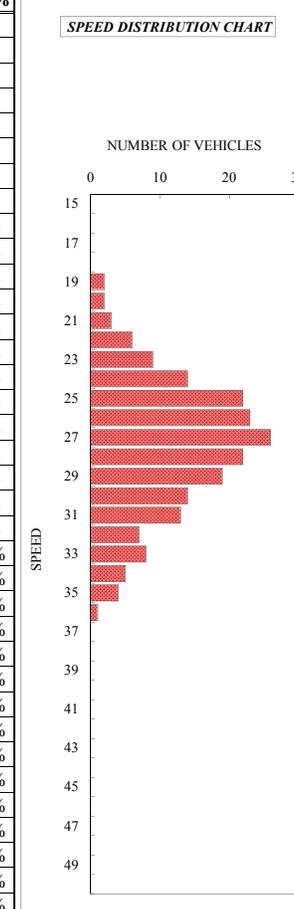
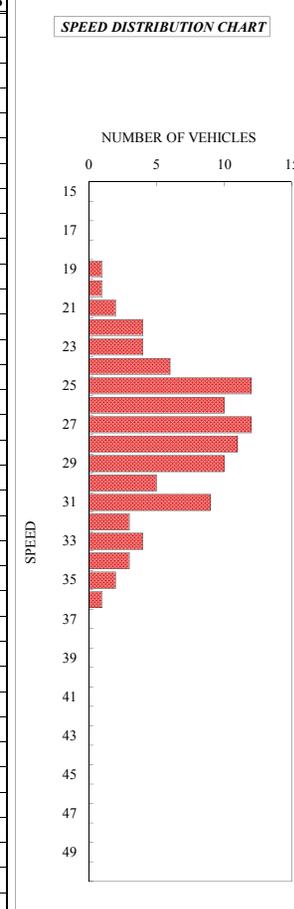
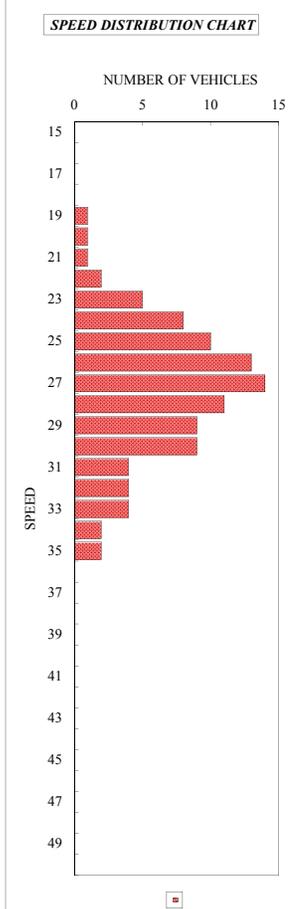
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/17/2017 DAY: THURSDAY TIME: 10:35-12:45PM

35. SPRUCE STREET BETWEEN JARVIS AVENUE & WELLS AVENUE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED																
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %													
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%													
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%													
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%													
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%													
19 mph	1	1.0%	1.0%	19 mph	1	1.0%	1.0%	19 mph	2	1.0%	1.0%													
20 mph	1	1.0%	2.0%	20 mph	1	1.0%	2.0%	20 mph	2	1.0%	2.0%													
21 mph	1	1.0%	3.0%	21 mph	2	2.0%	4.0%	21 mph	3	1.5%	3.5%													
22 mph	2	2.0%	5.0%	22 mph	4	4.0%	8.0%	22 mph	6	3.0%	6.5%													
23 mph	5	5.0%	10.0%	23 mph	4	4.0%	12.0%	23 mph	9	4.5%	11.0%													
24 mph	8	8.0%	18.0%	24 mph	6	6.0%	18.0%	24 mph	14	7.0%	18.0%													
25 mph	10	10.0%	28.0%	25 mph	12	12.0%	30.0%	25 mph	22	11.0%	29.0%													
26 mph	13	13.0%	41.0%	26 mph	10	10.0%	40.0%	26 mph	23	11.5%	40.5%													
27 mph	14	14.0%	55.0%	27 mph	12	12.0%	52.0%	27 mph	26	13.0%	53.5%													
28 mph	11	11.0%	66.0%	28 mph	11	11.0%	63.0%	28 mph	22	11.0%	64.5%													
29 mph	9	9.0%	75.0%	29 mph	10	10.0%	73.0%	29 mph	19	9.5%	74.0%													
30 mph	9	9.0%	84.0%	30 mph	5	5.0%	78.0%	30 mph	14	7.0%	81.0%													
31 mph	4	4.0%	88.0%	31 mph	9	9.0%	87.0%	31 mph	13	6.5%	87.5%													
32 mph	4	4.0%	92.0%	32 mph	3	3.0%	90.0%	32 mph	7	3.5%	91.0%													
33 mph	4	4.0%	96.0%	33 mph	4	4.0%	94.0%	33 mph	8	4.0%	95.0%													
34 mph	2	2.0%	98.0%	34 mph	3	3.0%	97.0%	34 mph	5	2.5%	97.5%													
35 mph	2	2.0%	100.0%	35 mph	2	2.0%	99.0%	35 mph	4	2.0%	99.5%													
36 mph	0	0.0%	100.0%	36 mph	1	1.0%	100.0%	36 mph	1	0.5%	100.0%													
37 mph	0	0.0%	100.0%	37 mph	0	0.0%	100.0%	37 mph	0	0.0%	100.0%													
38 mph	0	0.0%	100.0%	38 mph	0	0.0%	100.0%	38 mph	0	0.0%	100.0%													
39 mph	0	0.0%	100.0%	39 mph	0	0.0%	100.0%	39 mph	0	0.0%	100.0%													
40 mph	0	0.0%	100.0%	40 mph	0	0.0%	100.0%	40 mph	0	0.0%	100.0%													
41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%	41 mph	0	0.0%	100.0%													
42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%	42 mph	0	0.0%	100.0%													
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%													
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%													
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%													
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%													
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%													
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%													
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%													
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%													
TOTAL:	100	100.0%		AVERAGE SPEED:	27.4	TOTAL:	100	100.0%		AVERAGE SPEED:	27.5	TOTAL:	200	100.0%		AVERAGE SPEED:	27.5							
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%				
SPEEDS:	23.9	24.0	25.0	27.0	31.0	32.0	SPEEDS:	23.0	24.0	25.0	27.0	31.0	32.1	SPEEDS:	23.0	24.0	25.0	27.0	31.0	32.0				
10 MPH PACE SPEED	23-32	NUMBER IN PACE			27	87	PERCENT:	87.0%	10 MPH PACE SPEED	22-31	NUMBER IN PACE			83	PERCENT:	83.0%	10 MPH PACE SPEED	23-32	NUMBER IN PACE			169	PERCENT:	84.5%
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH				
TOTAL:	98	72	16	0	0	0	TOTAL:	98	70	22	1	0	0	TOTAL:	196	142	38	1	0	0				
PERCENTAGE:	98.0%	72.0%	16.0%	0.0%	0.0%	0.0%	PERCENTAGE:	98.0%	70.0%	22.0%	1.0%	0.0%	0.0%	PERCENTAGE:	98.0%	71.0%	19.0%	0.5%	0.0%	0.0%				



36. Stevenson Boulevard (between I-880 and Cherry St.)

This segment of Stevenson Boulevard extends in a primarily east-west direction from I-880 to Cherry Street. It consists of six through lanes from I-880 to Cedar Boulevard, then four lanes to Cherry Street separated by raised center medians. There are striped bicycle lanes between Cedar Boulevard and Cherry Street. Street parking is not allowed. It is classified as an arterial road in the Newark General Plan. The segment is bordered by commercial/retail businesses between I-880 and Cedar Boulevard, then light industrial/warehouse businesses on the south side and residential units on the north side (no direct access) between Cedar Boulevard and Cherry Street.

Speed Data

There is an existing speed limit of 40 mph. There are westbound speed limit signs west of Balentine Drive and Cedar Boulevard. There are eastbound speed limit signs east of Cherry Street and Balentine Drive. The measured 85th-percentile speed was recorded as follows:

	Speed <u>Limit</u>	85 th % <u>Speed</u>	Recommended <u>Speed Limit</u>
<u>Stevenson Boulevard:</u> I-880 to Cherry St.	40 mph	44.0 mph	40 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 40 mph. Factors include higher speed passenger vehicles and lower speed trucks, and traffic turning in and out of commercial driveways. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 45 mph be implemented, resulting in a 40 mph speed limit.

Improvements

There is a westbound speed limit sign located west of Balentine Drive that is partially obstructed by foliage.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **STEVENSON BOULEVARD**
Limits: **between I-880 and Cherry Street**

SPEED DATA

Location of Survey: between Cedar Blvd. and Parada St.
Date Taken: 8/15/17
Existing Speed Limit: 40 mph
85th Percentile Speed: 44.0 mph
10-mph Pace Speed: 34-43 mph
% Vehicles in Pace/Above/Below: 73% / 18% / 9%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 3 ('12 = 0, '13 = 1, '14 = 1, '15 = 1, '16 = 0)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.11 a/mvm
Statewide Average Rate: 2.04 / a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.70 mile
Average Daily Traffic: 21,978 ADT
Street Classification: Arterial
No. of lanes: 6 lanes east of Cedar Boulevard and 4 lanes west of Cedar Boulevard with center medians.
Roadway Characteristics: Mostly straight, striped bicycle lanes between Cedar Boulevard and Cherry Street; street parking not allowed.
Adjacent Land Use: Commercial /retail businesses I-880 to Cedar Boulevard; residential (no direct access) and light industrial between Cedar Boulevard and Cherry Street.
Other Conditions: Combination of higher speed passenger vehicles and lower speed trucks turning in and out of industrial businesses.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include higher speed vehicles and lower speed truck traffic turning in and out of driveways, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 45 mph, resulting in a 40 mph speed limit.

Recommended Speed Limit = 40 mph

Existing Speed Limit = 40 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

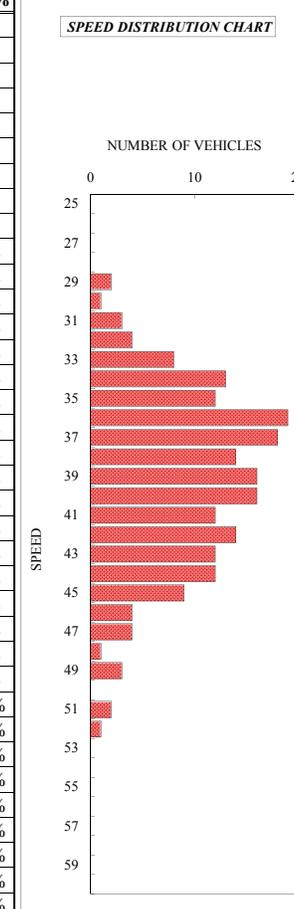
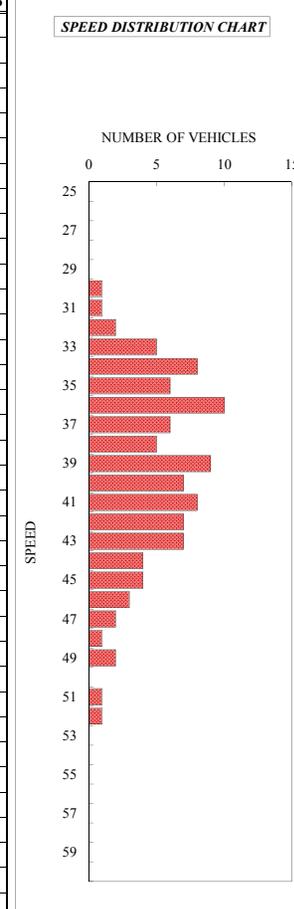
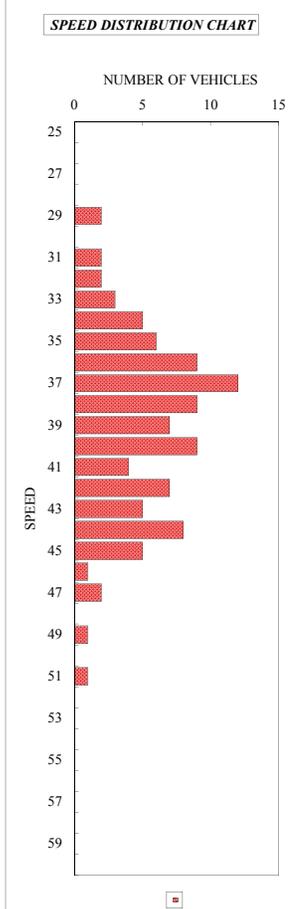
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/15/2017 DAY: TUESDAY TIME: 4:15-5:30PM

36. STEVENSON BL BETWEEN I-880 FREEWAY & CHERRY STREET

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED														
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %											
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%											
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%											
27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%											
28 mph	0	0.0%	0.0%	28 mph	0	0.0%	0.0%	28 mph	0	0.0%	0.0%											
29 mph	2	2.0%	2.0%	29 mph	0	0.0%	0.0%	29 mph	2	1.0%	1.0%											
30 mph	0	0.0%	2.0%	30 mph	1	1.0%	1.0%	30 mph	1	0.5%	1.5%											
31 mph	2	2.0%	4.0%	31 mph	1	1.0%	2.0%	31 mph	3	1.5%	3.0%											
32 mph	2	2.0%	6.0%	32 mph	2	2.0%	4.0%	32 mph	4	2.0%	5.0%											
33 mph	3	3.0%	9.0%	33 mph	5	5.0%	9.0%	33 mph	8	4.0%	9.0%											
34 mph	5	5.0%	14.0%	34 mph	8	8.0%	17.0%	34 mph	13	6.5%	15.5%											
35 mph	6	6.0%	20.0%	35 mph	6	6.0%	23.0%	35 mph	12	6.0%	21.5%											
36 mph	9	9.0%	29.0%	36 mph	10	10.0%	33.0%	36 mph	19	9.5%	31.0%											
37 mph	12	12.0%	41.0%	37 mph	6	6.0%	39.0%	37 mph	18	9.0%	40.0%											
38 mph	9	9.0%	50.0%	38 mph	5	5.0%	44.0%	38 mph	14	7.0%	47.0%											
39 mph	7	7.0%	57.0%	39 mph	9	9.0%	53.0%	39 mph	16	8.0%	55.0%											
40 mph	9	9.0%	66.0%	40 mph	7	7.0%	60.0%	40 mph	16	8.0%	63.0%											
41 mph	4	4.0%	70.0%	41 mph	8	8.0%	68.0%	41 mph	12	6.0%	69.0%											
42 mph	7	7.0%	77.0%	42 mph	7	7.0%	75.0%	42 mph	14	7.0%	76.0%											
43 mph	5	5.0%	82.0%	43 mph	7	7.0%	82.0%	43 mph	12	6.0%	82.0%											
44 mph	8	8.0%	90.0%	44 mph	4	4.0%	86.0%	44 mph	12	6.0%	88.0%											
45 mph	5	5.0%	95.0%	45 mph	4	4.0%	90.0%	45 mph	9	4.5%	92.5%											
46 mph	1	1.0%	96.0%	46 mph	3	3.0%	93.0%	46 mph	4	2.0%	94.5%											
47 mph	2	2.0%	98.0%	47 mph	2	2.0%	95.0%	47 mph	4	2.0%	96.5%											
48 mph	0	0.0%	98.0%	48 mph	1	1.0%	96.0%	48 mph	1	0.5%	97.0%											
49 mph	1	1.0%	99.0%	49 mph	2	2.0%	98.0%	49 mph	3	1.5%	98.5%											
50 mph	0	0.0%	99.0%	50 mph	0	0.0%	98.0%	50 mph	0	0.0%	98.5%											
51 mph	1	1.0%	100.0%	51 mph	1	1.0%	99.0%	51 mph	2	1.0%	99.5%											
52 mph	0	0.0%	100.0%	52 mph	1	1.0%	100.0%	52 mph	1	0.5%	100.0%											
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%											
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%											
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%											
56 mph	0	0.0%	100.0%	56 mph	0	0.0%	100.0%	56 mph	0	0.0%	100.0%											
57 mph	0	0.0%	100.0%	57 mph	0	0.0%	100.0%	57 mph	0	0.0%	100.0%											
58 mph	0	0.0%	100.0%	58 mph	0	0.0%	100.0%	58 mph	0	0.0%	100.0%											
59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%											
60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%											
TOTAL:	100	100.0%		AVERAGE SPEED:	39.0			TOTAL:	100	100.0%		AVERAGE SPEED:	39.4			TOTAL:	200	100.0%		AVERAGE SPEED:	39.2	
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	34.0	35.0	36.0	38.5	44.0	44.1		SPEEDS:	34.0	34.0	36.0	39.0	44.0	45.1		SPEEDS:	34.0	34.0	36.0	39.0	44.0	45.0
10 MPH PACE SPEED	35-44	NUMBER IN PACE		76	PERCENT:	76.0%		10 MPH PACE SPEED	34-43	NUMBER IN PACE		73	PERCENT:	73.0%		10 MPH PACE SPEED	34-43	NUMBER IN PACE		146	PERCENT:	73.0%
SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH		SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH		SPEED EXCEEDED:	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH
TOTAL:	98	80	34	5	1	0		TOTAL:	99	77	40	10	2	0		TOTAL:	197	157	74	15	3	0
PERCENTAGE:	98.0%	80.0%	34.0%	5.0%	1.0%	0.0%		PERCENTAGE:	99.0%	77.0%	40.0%	10.0%	2.0%	0.0%		PERCENTAGE:	98.5%	78.5%	37.0%	7.5%	1.5%	0.0%



37. Stevenson Boulevard (west of Cherry St.)

This segment of Stevenson Boulevard extends west from Cherry Street and terminates west of Eureka Drive. It consists of four through lanes separated by raised center medians. There are striped bicycle lanes. It is classified as an arterial road in the Newark General Plan. The segment is bordered by warehouse/light industrial businesses with driveways serving parking lots, and new residential units are being developed on the north side between Cherry Street and Eureka Drive.

Speed Data

There is an existing speed limit of 40 mph. There is a westbound speed limit sign west of Cherry Street. The measured 85th-percentile speed was recorded as follows:

<u>Stevenson Boulevard:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>West of Cherry St.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	40 mph	40.0 mph	35 mph (NEW)

Recommendation

Based on the measured 85th-percentile speed and street characteristics, it is recommended that a new speed limit be established at 35 mph. Factors include the presence of higher-speed passenger vehicles and lower-speed trucks with traffic turning in and out of commercial driveways; as well as new residential units, and associated pedestrian and bicycle activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph be implemented, resulting in a new speed limit of 35 mph.

Improvements

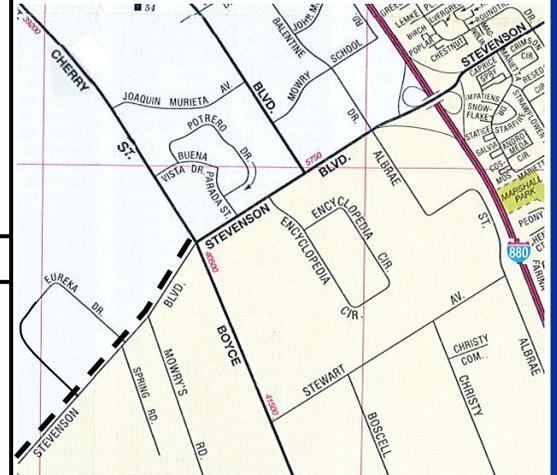
Replace the existing westbound speed limit sign (40 mph) with a 35 mph speed limit sign, and trim foliage near sign, if necessary, to maintain sign visibility.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **STEVENSON BOULEVARD**
Limits: **west of Cherry Street**

SPEED DATA

Location of Survey: between Cherry St. and Eureka Dr.
Date Taken: 8/15/17
Existing Speed Limit: 40 mph
85th Percentile Speed: 40.0 mph
10-mph Pace Speed: 31-40 mph
% Vehicles in Pace/Above/Below: 82% / 12% / 6%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 1 ('12 = 0, '13 = 0, '14 = 1, '15 = 0, '16 = 0)
Speed Related Accidents: Total = 1 ('12 = 0, '13 = 0, '14 = 1, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.11 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.57 mile
Average Daily Traffic: 8,475 ADT
Street Classification: Arterial
No. of lanes: 4 lanes with center medians.
Roadway Characteristics: Straight; striped bicycle lanes; limited street parking on east side.
Adjacent Land Use: Warehouse/light industrial businesses, and new Residential units.

Other Conditions: Combination of higher speed passenger vehicles and lower speed trucks turning in and out of driveways.
Residential units being developed on north side.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include lower speed trucks turning in and out of driveways, and new residential units, with associated pedestrian and bicycle activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 40 mph

Speed Limit Change? YES

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

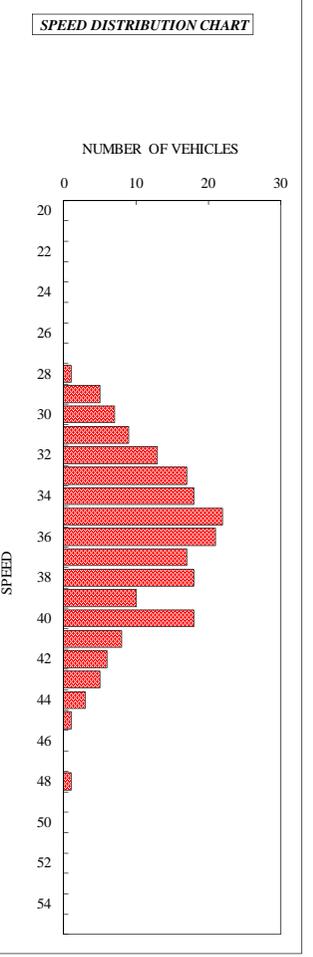
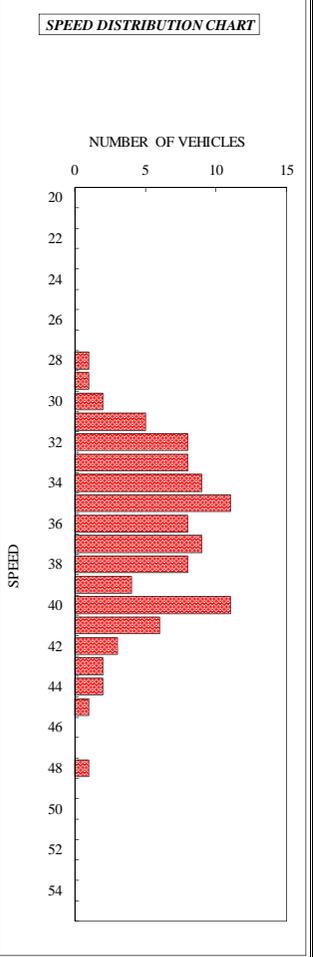
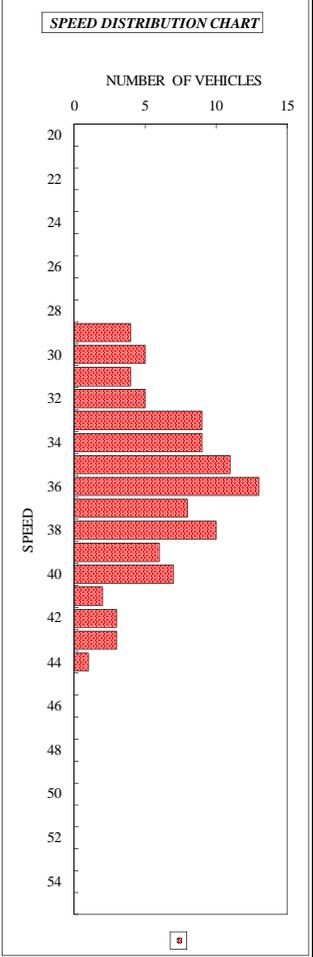
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/15/2017 DAY: TUESDAY TIME: 3:05-4:10PM

37. STEVENSON BOULEVARD WEST OF CHERRY STREET

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%									
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%									
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%									
27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%									
28 mph	0	0.0%	0.0%	28 mph	1	1.0%	1.0%	28 mph	1	0.5%	0.5%									
29 mph	4	4.0%	4.0%	29 mph	1	1.0%	2.0%	29 mph	5	2.5%	3.0%									
30 mph	5	5.0%	9.0%	30 mph	2	2.0%	4.0%	30 mph	7	3.5%	6.5%									
31 mph	4	4.0%	13.0%	31 mph	5	5.0%	9.0%	31 mph	9	4.5%	11.0%									
32 mph	5	5.0%	18.0%	32 mph	8	8.0%	17.0%	32 mph	13	6.5%	17.5%									
33 mph	9	9.0%	27.0%	33 mph	8	8.0%	25.0%	33 mph	17	8.5%	26.0%									
34 mph	9	9.0%	36.0%	34 mph	9	9.0%	34.0%	34 mph	18	9.0%	35.0%									
35 mph	11	11.0%	47.0%	35 mph	11	11.0%	45.0%	35 mph	22	11.0%	46.0%									
36 mph	13	13.0%	60.0%	36 mph	8	8.0%	53.0%	36 mph	21	10.5%	56.5%									
37 mph	8	8.0%	68.0%	37 mph	9	9.0%	62.0%	37 mph	17	8.5%	65.0%									
38 mph	10	10.0%	78.0%	38 mph	8	8.0%	70.0%	38 mph	18	9.0%	74.0%									
39 mph	6	6.0%	84.0%	39 mph	4	4.0%	74.0%	39 mph	10	5.0%	79.0%									
40 mph	7	7.0%	91.0%	40 mph	11	11.0%	85.0%	40 mph	18	9.0%	88.0%									
41 mph	2	2.0%	93.0%	41 mph	6	6.0%	91.0%	41 mph	8	4.0%	92.0%									
42 mph	3	3.0%	96.0%	42 mph	3	3.0%	94.0%	42 mph	6	3.0%	95.0%									
43 mph	3	3.0%	99.0%	43 mph	2	2.0%	96.0%	43 mph	5	2.5%	97.5%									
44 mph	1	1.0%	100.0%	44 mph	2	2.0%	98.0%	44 mph	3	1.5%	99.0%									
45 mph	0	0.0%	100.0%	45 mph	1	1.0%	99.0%	45 mph	1	0.5%	99.5%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	99.0%	46 mph	0	0.0%	99.5%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	99.0%	47 mph	0	0.0%	99.5%									
48 mph	0	0.0%	100.0%	48 mph	1	1.0%	100.0%	48 mph	1	0.5%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%									
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%									
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%									
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%									
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%	AVERAGE SPEED:		35.8	TOTAL:	100	100.0%	AVERAGE SPEED:		36.4	TOTAL:	200	100.0%	AVERAGE SPEED:		36.1			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	31.0	32.0	33.0	36.0	40.0	40.0	SPEEDS:	32.0	32.0	33.8	36.0	40.2	41.0	SPEEDS:	31.0	32.0	33.0	36.0	40.0	41.0
10 MPH PACE SPEED	31-40	NUMBER IN PACE:		82	PERCENT:	82.0%	10 MPH PACE SPEED	32-41	NUMBER IN PACE:		82	PERCENT:	82.0%	10 MPH PACE SPEED	31-40	NUMBER IN PACE:		163	PERCENT:	81.5%
SPEED EXCEEDED:	25MPH	25MPH	25MPH	25MPH	25MPH	25MPH	SPEED EXCEEDED:	25MPH	25MPH	25MPH	25MPH	25MPH	25MPH	SPEED EXCEEDED:	25MPH	25MPH	25MPH	25MPH	25MPH	25MPH
TOTAL:	100	91	53	9	0	0	TOTAL:	100	96	55	15	1	0	TOTAL:	200	187	108	24	1	0
PERCENTAGE:	100.0%	91.0%	53.0%	9.0%	0.0%	0.0%	PERCENTAGE:	100.0%	96.0%	55.0%	15.0%	1.0%	0.0%	PERCENTAGE:	100.0%	93.5%	54.0%	12.0%	0.5%	0.0%



38. Sycamore Street (between Mayhews Landing Rd. and Carter Ave.)

This segment of Sycamore Street extends south from Mayhews Landing Road (north of Mayhews Landing Road it continues as Haley Street), then curves west near Mayhews Landing Road, then curves south again near George Avenue to Carter Avenue. It consists of two through lanes separated by two-way left turn lanes. There are striped bicycle lanes and/or shoulder/parking lanes. It is classified as a collector road in the Newark General Plan. The segment extends through a residential area with direct driveway access and also carries through-trips. There are retail businesses located near the Thornton Avenue intersection.

Speed Data

There is an existing posted speed limit of 30 mph. There is a southbound 30 mph sign located south of Mayhews Landing Road and a northbound 30 mph sign north of Thornton Avenue. There are also advisory “Curve/20 mph” speed warning signs on the approaches to the curve near George Avenue. The measured 85th-percentile speed was recorded as follows:

<u>Sycamore Street:</u>	<u>Speed</u> <u>Limit</u>	<u>85th %</u> <u>Speed</u>	<u>Recommended</u> <u>Speed Limit</u>
Mayhews Landing Rd. to Carter Ave.	30 mph	36.0 mph	30 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 30 mph. The road is in a residential area and the residential unit density meets the standard for consideration in setting the speed limit (CVC Section 627). Other factors include direct residential access with traffic turning in and backing out of driveways and street parking activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 35 mph be implemented, resulting in a 30 mph speed limit.

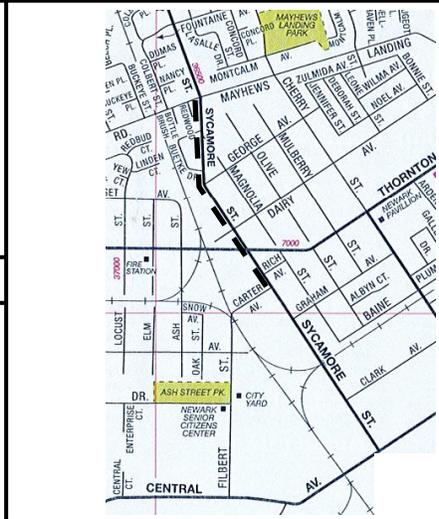
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: SYCAMORE STREET
Limits: between Mayhews Landing Road and Carter Avenue

SPEED DATA

Location of Survey: between Beutke Dr. and Dairy Ave.
Date Taken: 8/23/17
Existing Speed Limit: 30 mph
85th Percentile Speed: 36.0 mph
10-mph Pace Speed: 27-36 mph
% Vehicles in Pace/Above/Below: 81% / 12% / 7%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 5 ('12 = 1, '13 = 1, '14 = 1, '15 = 1, '16 = 1)
Speed Related Accidents: Total = 2 ('12 = 0, '13 = 0, '14 = 0, '15 = 1, '16 = 1)
Accident Rate (accs. per million vehicle miles): 0.93 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.55 mile
Average Daily Traffic: 5,339 ADT
Street Classification: Collector
No. of lanes: 2 lanes with two-way left turn lanes.
Roadway Characteristics: Straight sections and curved sections near Mayhews Landing Road and George Avenue; striped bicycle lanes and shoulder/parking lanes.
Adjacent Land Use: Residential with direct driveway access.
Other Conditions: Combination of through-trips and local trips turning in and out of driveways and street parking activity.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential area with residential unit density which meets the standard for consideration in setting the speed limit (CVC Section 627); residential driveways with traffic turning in and backing out; and street parking activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 35 mph, resulting in a 30 mph speed limit.

Recommended Speed Limit = 30 mph

Existing Speed Limit = 30 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

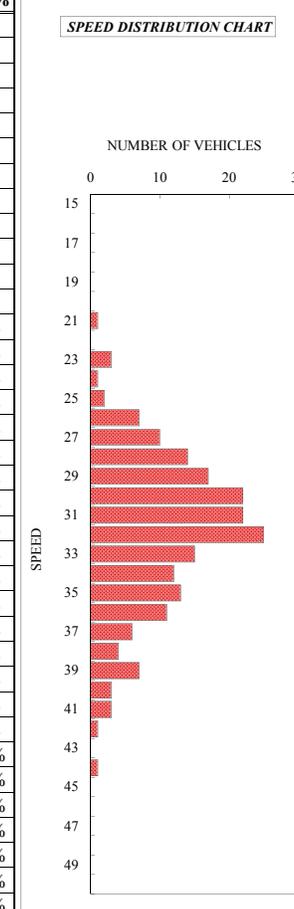
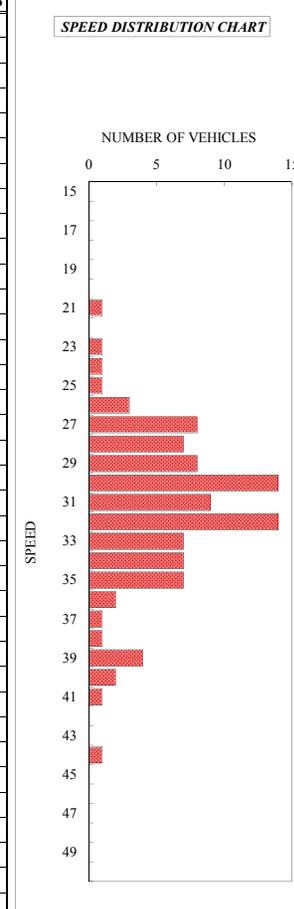
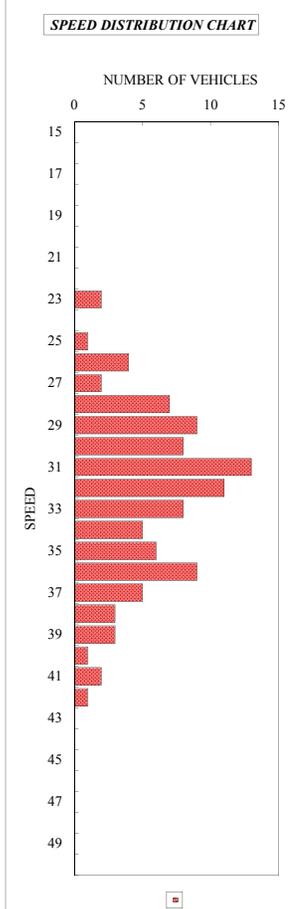
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/23/2017 DAY: WEDNESDAY TIME: 4:25-5:35PM

38. SYCAMORE DRIVE BETWEEN MAYHEWS LANDING ROAD & CATER AVENUE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%									
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	1	1.0%	1.0%	21 mph	1	0.5%	0.5%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	1.0%	22 mph	0	0.0%	0.5%									
23 mph	2	2.0%	2.0%	23 mph	1	1.0%	2.0%	23 mph	3	1.5%	2.0%									
24 mph	0	0.0%	2.0%	24 mph	1	1.0%	3.0%	24 mph	1	0.5%	2.5%									
25 mph	1	1.0%	3.0%	25 mph	1	1.0%	4.0%	25 mph	2	1.0%	3.5%									
26 mph	4	4.0%	7.0%	26 mph	3	3.0%	7.0%	26 mph	7	3.5%	7.0%									
27 mph	2	2.0%	9.0%	27 mph	8	8.0%	15.0%	27 mph	10	5.0%	12.0%									
28 mph	7	7.0%	16.0%	28 mph	7	7.0%	22.0%	28 mph	14	7.0%	19.0%									
29 mph	9	9.0%	25.0%	29 mph	8	8.0%	30.0%	29 mph	17	8.5%	27.5%									
30 mph	8	8.0%	33.0%	30 mph	14	14.0%	44.0%	30 mph	22	11.0%	38.5%									
31 mph	13	13.0%	46.0%	31 mph	9	9.0%	53.0%	31 mph	22	11.0%	49.5%									
32 mph	11	11.0%	57.0%	32 mph	14	14.0%	67.0%	32 mph	25	12.5%	62.0%									
33 mph	8	8.0%	65.0%	33 mph	7	7.0%	74.0%	33 mph	15	7.5%	69.5%									
34 mph	5	5.0%	70.0%	34 mph	7	7.0%	81.0%	34 mph	12	6.0%	75.5%									
35 mph	6	6.0%	76.0%	35 mph	7	7.0%	88.0%	35 mph	13	6.5%	82.0%									
36 mph	9	9.0%	85.0%	36 mph	2	2.0%	90.0%	36 mph	11	5.5%	87.5%									
37 mph	5	5.0%	90.0%	37 mph	1	1.0%	91.0%	37 mph	6	3.0%	90.5%									
38 mph	3	3.0%	93.0%	38 mph	1	1.0%	92.0%	38 mph	4	2.0%	92.5%									
39 mph	3	3.0%	96.0%	39 mph	4	4.0%	96.0%	39 mph	7	3.5%	96.0%									
40 mph	1	1.0%	97.0%	40 mph	2	2.0%	98.0%	40 mph	3	1.5%	97.5%									
41 mph	2	2.0%	99.0%	41 mph	1	1.0%	99.0%	41 mph	3	1.5%	99.0%									
42 mph	1	1.0%	100.0%	42 mph	0	0.0%	99.0%	42 mph	1	0.5%	99.5%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	99.0%	43 mph	0	0.0%	99.5%									
44 mph	0	0.0%	100.0%	44 mph	1	1.0%	100.0%	44 mph	1	0.5%	100.0%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	32.3	TOTAL:	100	100.0%		AVERAGE SPEED:	31.4	TOTAL:	200	100.0%		AVERAGE SPEED:	31.9			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	28.0	28.0	29.8	32.0	36.2	37.1	SPEEDS:	27.0	27.9	29.0	31.0	35.0	36.1	SPEEDS:	27.0	28.0	29.0	32.0	36.0	37.0
10 MPH PACE SPEED	28-37	NUMBER IN PACE		81	PERCENT:	81.0%	10 MPH PACE SPEED	26-35	NUMBER IN PACE		84	PERCENT:	84.0%	10 MPH PACE SPEED	27-36	NUMBER IN PACE		161	PERCENT:	80.5%
SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	SPEED EXCEEDED:	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH
TOTAL:	100	97	67	24	3	0	TOTAL:	100	96	56	12	2	0	TOTAL:	200	193	123	36	5	0
PERCENTAGE:	100.0%	97.0%	67.0%	24.0%	3.0%	0.0%	PERCENTAGE:	100.0%	96.0%	56.0%	12.0%	2.0%	0.0%	PERCENTAGE:	100.0%	96.5%	61.5%	18.0%	2.5%	0.0%



39. Sycamore Street (between Carter Ave. and Central Ave.)

This segment of Sycamore Street extends in a primarily north-south direction between Carter Avenue and Central Avenue. It is straight and consists of two through lanes separated by two-way left turn lanes. There are striped bicycle lanes and shoulder/parking lanes. It is classified as a collector road in the Newark General Plan. There is a railroad crossing in the middle of the segment. The segment extends through a residential area (no direct access) north of the crossing and through an industrial area south of the crossing.

Speed Data

There is an existing posted speed limit of 35 mph. There is a southbound speed limit sign located south of Carter Avenue. There is a northbound speed limit sign located north of Central Avenue that is obstructed by foliage. The measured 85th-percentile speed was recorded as follows:

<u>Sycamore Street:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Carter Ave. to Central Ave.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	35 mph	41.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The road is in a residential area and the residential unit density meets the standard for consideration in setting the speed limit (CVC Section 627). Other factors include industrial driveways with trucks turning in and out, and street parking activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph be implemented, resulting in a 35 mph speed limit.

Improvements

The speed limit south of Carter Avenue is 35 mph and the speed limit north of Carter Avenue is 30 mph. However, there is no northbound 30 mph speed limit sign near Carter Avenue (there is one north of Thornton Avenue). Therefore, consideration could be given to installing a northbound 30 mph sign near Carter Avenue (across from an existing southbound 35 mph sign).

It is recommended that the existing northbound 35 mph speed limit sign located north of Central Avenue be cleared of obstructing foliage or moved.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: SYCAMORE STREET
Limits: between Carter Avenue and Central Avenue

SPEED DATA

Location of Survey: between Graham Ave. and Clark Ave.
Date Taken: 8/23/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 41.0 mph
10-mph Pace Speed: 31-40 mph
% Vehicles in Pace/Above/Below: 79% / 16% / 5%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 2 ('12 = 1, '13 = 1, '14 = 0, '15 = 0, '16 = 0)
Speed Related Accidents: Total = 2 ('12 = 1, '13 = 1, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.46 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.49 mile
Average Daily Traffic: 4,819 ADT
Street Classification: Collector
No. of lanes: 2 lanes with two-way left turn lanes.
Roadway Characteristics: Straight; striped bicycle lanes and shoulder/parking lanes; railroad crossing in middle of segment.
Adjacent Land Use: Residential north of railroad crossing (no direct driveway access) and industrial south of railroad crossing.
Other Conditions: Combination of higher speed through vehicles and lower speed trucks turning in and out of driveways and street parking activity.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential area and residential unit density that meets the standard for consideration in setting the speed limit (CVC Section 627); combination of higher speed vehicles and lower speed trucks turning in and out of driveways; and street parking activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

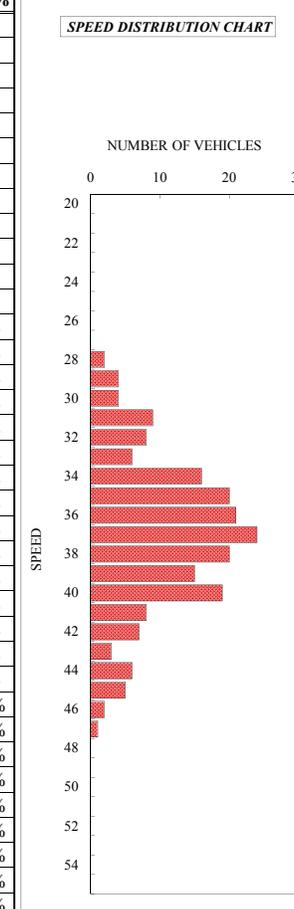
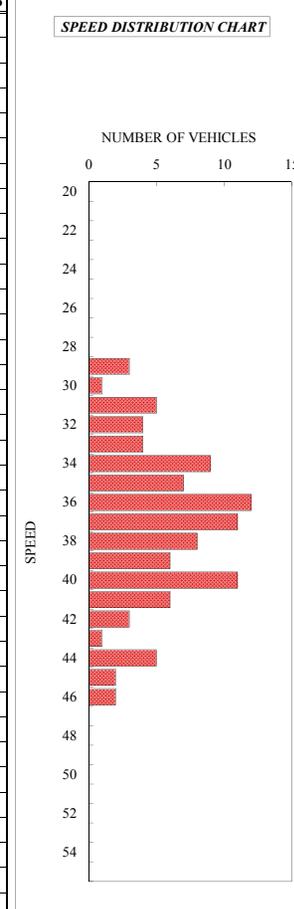
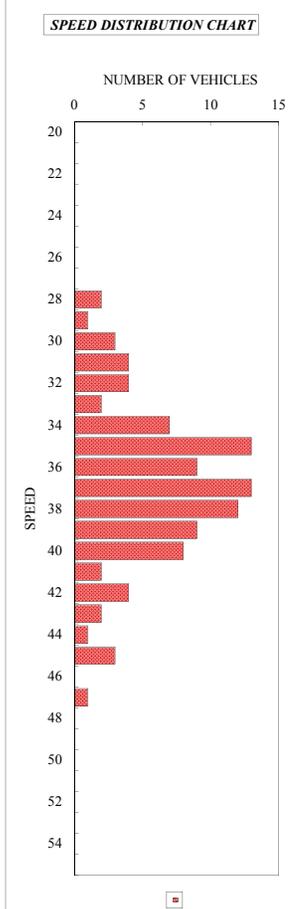
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/23/2017 DAY: WEDNESDAY TIME: 3:05-4:20PM

39. SYCAMORE STREET BETWEEN CARTER AVENUE & CENTRAL AVENUE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED						
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %			
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%			
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%			
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%			
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%			
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%			
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%			
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%			
27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%	27 mph	0	0.0%	0.0%			
28 mph	2	2.0%	2.0%	28 mph	0	0.0%	0.0%	28 mph	2	1.0%	1.0%			
29 mph	1	1.0%	3.0%	29 mph	3	3.0%	3.0%	29 mph	4	2.0%	3.0%			
30 mph	3	3.0%	6.0%	30 mph	1	1.0%	4.0%	30 mph	4	2.0%	5.0%			
31 mph	4	4.0%	10.0%	31 mph	5	5.0%	9.0%	31 mph	9	4.5%	9.5%			
32 mph	4	4.0%	14.0%	32 mph	4	4.0%	13.0%	32 mph	8	4.0%	13.5%			
33 mph	2	2.0%	16.0%	33 mph	4	4.0%	17.0%	33 mph	6	3.0%	16.5%			
34 mph	7	7.0%	23.0%	34 mph	9	9.0%	26.0%	34 mph	16	8.0%	24.5%			
35 mph	13	13.0%	36.0%	35 mph	7	7.0%	33.0%	35 mph	20	10.0%	34.5%			
36 mph	9	9.0%	45.0%	36 mph	12	12.0%	45.0%	36 mph	21	10.5%	45.0%			
37 mph	13	13.0%	58.0%	37 mph	11	11.0%	56.0%	37 mph	24	12.0%	57.0%			
38 mph	12	12.0%	70.0%	38 mph	8	8.0%	64.0%	38 mph	20	10.0%	67.0%			
39 mph	9	9.0%	79.0%	39 mph	6	6.0%	70.0%	39 mph	15	7.5%	74.5%			
40 mph	8	8.0%	87.0%	40 mph	11	11.0%	81.0%	40 mph	19	9.5%	84.0%			
41 mph	2	2.0%	89.0%	41 mph	6	6.0%	87.0%	41 mph	8	4.0%	88.0%			
42 mph	4	4.0%	93.0%	42 mph	3	3.0%	90.0%	42 mph	7	3.5%	91.5%			
43 mph	2	2.0%	95.0%	43 mph	1	1.0%	91.0%	43 mph	3	1.5%	93.0%			
44 mph	1	1.0%	96.0%	44 mph	5	5.0%	96.0%	44 mph	6	3.0%	96.0%			
45 mph	3	3.0%	99.0%	45 mph	2	2.0%	98.0%	45 mph	5	2.5%	98.5%			
46 mph	0	0.0%	99.0%	46 mph	2	2.0%	100.0%	46 mph	2	1.0%	99.5%			
47 mph	1	1.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	1	0.5%	100.0%			
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%			
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%			
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%			
51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%			
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%			
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%			
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%			
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%			
TOTAL:	100	100.0%		TOTAL:	100	100.0%		TOTAL:	200	100.0%				
AVERAGE SPEED: 36.8				AVERAGE SPEED: 37.2				AVERAGE SPEED: 37.0						
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	31.9	33.0	35.0	37.0	40.0	42.0		SPEEDS:	32.0	33.0	34.0	37.0	41.0	42.1
10 MPH PACE SPEED	31-40	NUMBER IN PACE		81	PERCENT:	81.0%		10 MPH PACE SPEED	32-41	NUMBER IN PACE		78	PERCENT:	78.0%
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH		SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	100	94	64	13	1	0		TOTAL:	100	96	67	19	2	0
PERCENTAGE:	100.0%	94.0%	64.0%	13.0%	1.0%	0.0%		PERCENTAGE:	100.0%	96.0%	67.0%	19.0%	2.0%	0.0%



40. Thornton Avenue (between I-880 and Cherry St.)

This segment of Thornton Avenue extends in a primarily east-west direction between I-880 and Cherry Street. It is straight and consists of four lanes separated by raised center medians, except for one block between I-880 and Cedar Boulevard which consists of three westbound lanes. Street parking is allowed west of Newark Boulevard. There are signalized controls at major cross-streets and stop sign controls at other intersection approaches. It is classified as an arterial road in the Newark General Plan. The segment is bordered by a mix of commercial businesses, retail stores, and residential units. There is a school located near Mayhews Landing Road and yellow school crosswalks at nearby intersections.

Speed Data

There is an existing speed limit of 35 mph. There are westbound speed limit signs located near I-880, Cedar Boulevard, and Newark Boulevard. There are eastbound speed limit signs near Newark Boulevard and Cedar Boulevard. There are also "School 25 mph When Children Are Present" signs on the approaches to Mayhews Landing Road. The measured 85th-percentile speed was recorded as follows:

	Speed <u>Limit</u>	85 th % <u>Speed</u>	Recommended <u>Speed Limit</u>
<u>Thornton Avenue:</u> I-880 to Cherry St.	35 mph	41.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph. The road extends through commercial and residential areas with traffic turning in and out of driveways, and there is a school with associated pedestrian activity. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph be implemented, resulting in a 35 mph speed limit.

Improvements

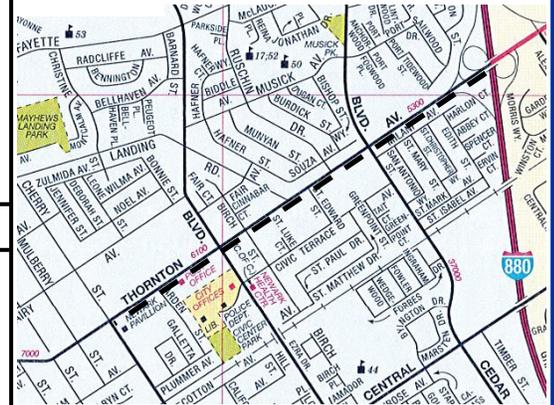
Consideration could be given to installing an eastbound 35 mph speed limit sign east of Cherry Street.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: THORNTON AVENUE
Limits: between I-880 and Cherry Street

SPEED DATA

Location of Survey: between Cedar Blvd. and Mayhews Landing Rd.
Date Taken: 8/16/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 41.0 mph
10-mph Pace Speed: 32-41 mph
% Vehicles in Pace/Above/Below: 74% / 15% / 11%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 21 ('12 = 6, '13 = 2, '14 = 7, '15 = 5, '16 = 1)
Speed Related Accidents: Total = 9 ('12 = 3, '13 = 2, '14 = 3, '15 = 1, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.51 a/mvm
Statewide Average Rate: 2.04 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 1.11 mile
Average Daily Traffic: 20,239 ADT
Street Classification: Arterial
No. of lanes: 4 lanes with center medians west of Cedar Boulevard; 5 lanes (3 westbound and 2 eastbound) east of Cedar.
Roadway Characteristics: Straight; street parking allowed west of Newark Boulevard.
Adjacent Land Use: Combination of commercial businesses, retail stores, and residential units (some with direct driveway access).
Other Conditions: School located near Mayhews Landing Road with yellow school crosswalks at nearby intersections.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include traffic turning in and out of retail and residential driveways, and nearby school with associated pedestrian activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

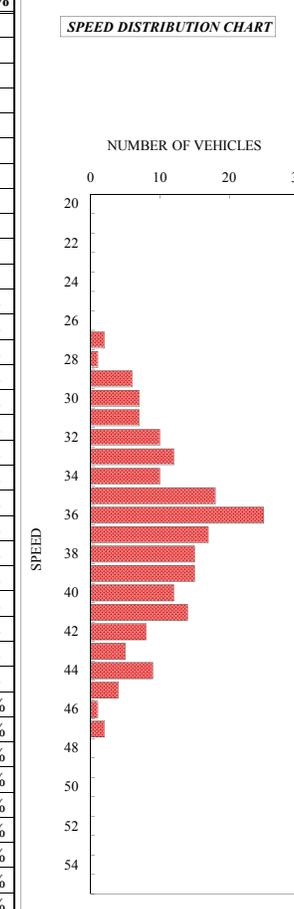
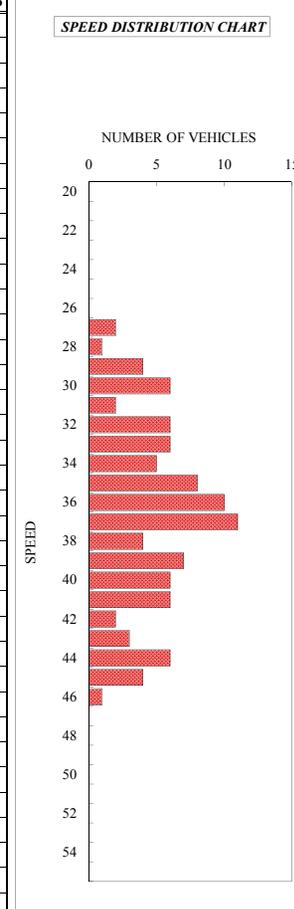
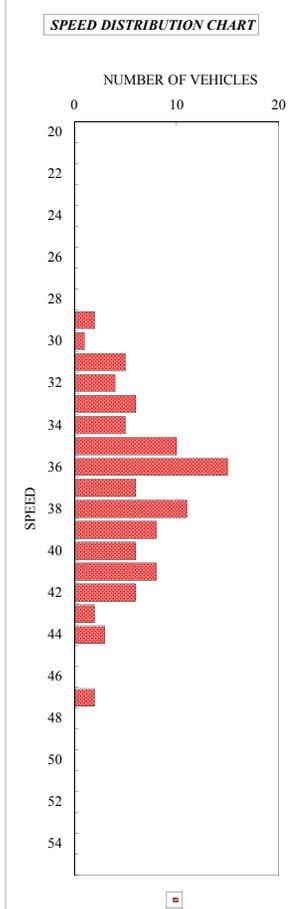
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/16/2017 DAY: WEDNESDAY TIME: 2:50-3:55PM

40. THORNTON AVENUE BETWEEN I-880 FREEWAY & CHERRY STREET

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%									
25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%	25 mph	0	0.0%	0.0%									
26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%	26 mph	0	0.0%	0.0%									
27 mph	0	0.0%	0.0%	27 mph	2	2.0%	2.0%	27 mph	2	1.0%	1.0%									
28 mph	0	0.0%	0.0%	28 mph	1	1.0%	3.0%	28 mph	1	0.5%	1.5%									
29 mph	2	2.0%	2.0%	29 mph	4	4.0%	7.0%	29 mph	6	3.0%	4.5%									
30 mph	1	1.0%	3.0%	30 mph	6	6.0%	13.0%	30 mph	7	3.5%	8.0%									
31 mph	5	5.0%	8.0%	31 mph	2	2.0%	15.0%	31 mph	7	3.5%	11.5%									
32 mph	4	4.0%	12.0%	32 mph	6	6.0%	21.0%	32 mph	10	5.0%	16.5%									
33 mph	6	6.0%	18.0%	33 mph	6	6.0%	27.0%	33 mph	12	6.0%	22.5%									
34 mph	5	5.0%	23.0%	34 mph	5	5.0%	32.0%	34 mph	10	5.0%	27.5%									
35 mph	10	10.0%	33.0%	35 mph	8	8.0%	40.0%	35 mph	18	9.0%	36.5%									
36 mph	15	15.0%	48.0%	36 mph	10	10.0%	50.0%	36 mph	25	12.5%	49.0%									
37 mph	6	6.0%	54.0%	37 mph	11	11.0%	61.0%	37 mph	17	8.5%	57.5%									
38 mph	11	11.0%	65.0%	38 mph	4	4.0%	65.0%	38 mph	15	7.5%	65.0%									
39 mph	8	8.0%	73.0%	39 mph	7	7.0%	72.0%	39 mph	15	7.5%	72.5%									
40 mph	6	6.0%	79.0%	40 mph	6	6.0%	78.0%	40 mph	12	6.0%	78.5%									
41 mph	8	8.0%	87.0%	41 mph	6	6.0%	84.0%	41 mph	14	7.0%	85.5%									
42 mph	6	6.0%	93.0%	42 mph	2	2.0%	86.0%	42 mph	8	4.0%	89.5%									
43 mph	2	2.0%	95.0%	43 mph	3	3.0%	89.0%	43 mph	5	2.5%	92.0%									
44 mph	3	3.0%	98.0%	44 mph	6	6.0%	95.0%	44 mph	9	4.5%	96.5%									
45 mph	0	0.0%	98.0%	45 mph	4	4.0%	99.0%	45 mph	4	2.0%	98.5%									
46 mph	0	0.0%	98.0%	46 mph	1	1.0%	100.0%	46 mph	1	0.5%	99.0%									
47 mph	2	2.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	2	1.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%									
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%									
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%									
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%									
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	37.1	TOTAL:	100	100.0%		AVERAGE SPEED:	36.6	TOTAL:	200	100.0%		AVERAGE SPEED:	36.9			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	32.0	33.0	35.0	37.0	41.0	42.0	SPEEDS:	30.0	31.9	33.0	36.5	42.0	44.0	SPEEDS:	31.0	32.0	34.0	37.0	41.0	43.0
10 MPH PACE SPEED	33-42	NUMBER IN PACE		81	PERCENT:	81.0%	10 MPH PACE SPEED	32-41	NUMBER IN PACE		69	PERCENT:	69.0%	10 MPH PACE SPEED	32-41	NUMBER IN PACE		148	PERCENT:	74.0%
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	100	97	67	21	2	0	TOTAL:	100	87	60	22	1	0	TOTAL:	200	184	127	43	3	0
PERCENTAGE:	100.0%	97.0%	67.0%	21.0%	2.0%	0.0%	PERCENTAGE:	100.0%	87.0%	60.0%	22.0%	1.0%	0.0%	PERCENTAGE:	100.0%	92.0%	63.5%	21.5%	1.5%	0.0%



41. Thornton Avenue (between Cherry St. and Willow St.)

This segment of Thornton Avenue extends in a primarily east-west direction between Cherry Street and Willow Street. It is straight from Cherry Street to Olive Street, where it curves, then continues straight again to Willow Street. It consists of three lanes (two eastbound lanes and one westbound lane) separated by raised center medians or two-way left turn lanes between Cherry Street and Ash Street, then narrows to two lanes (one in each direction) to Willow Street. Street parking is allowed. There are signalized controls at major cross-streets and stop sign controls at other intersection approaches. It is classified as an arterial road in the Newark General Plan. The segment is bordered by a mix of commercial businesses, retail stores, and residential units. There is a school located near Spruce Street and yellow school crosswalks at nearby intersections.

Speed Data

There is an existing speed limit of 35 mph. There are westbound speed limit signs located near Sycamore Street and Spruce Street. There are eastbound speed limit signs near Willow Street and Spruce Street. There are also “Curve/20 mph” advisory signs on the approaches to the curve at Olive Street. And there are “School 25 mph When Children Are Present” signs on the approaches to the school that is located between Spruce Street and Laurel Street. The measured 85th-percentile speed was recorded as follows:

<u>Thornton Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>I-880 to Willow St.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	35 mph	37.0 mph	35 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 35 mph.

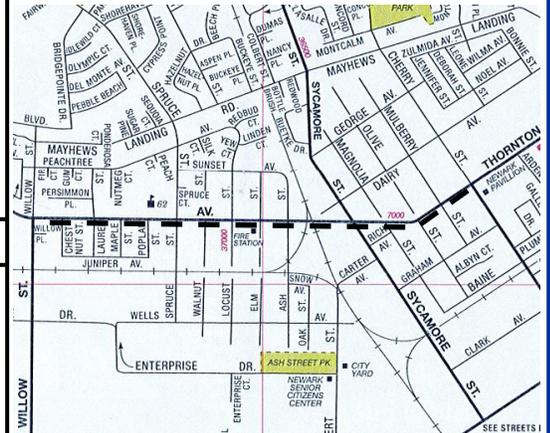
Field reviews indicate all speed signs are visible and in appropriate condition.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: THORNTON AVENUE
Limits: between Cherry Street and Willow Street

SPEED DATA

Location of Survey: between Ash St. and Spruce St.
Date Taken: 8/16/17
Existing Speed Limit: 35 mph
85th Percentile Speed: 37.0 mph
10-mph Pace Speed: 26-35 mph
% Vehicles in Pace/Above/Below: 77% / 21% / 2%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 8 ('12 = 2, '13 = 0, '14 = 1, '15 = 1, '16 = 4)
Speed Related Accidents: Total = 1 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 1)
Accident Rate (accs. per million vehicle miles): 0.31 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 1.13 mile
Average Daily Traffic: 12,354 ADT
Street Classification: Arterial
No. of lanes: 3 lanes (2 eastbound and 1 westbound) east of Ash Street; 2 lanes west of Ash Street.
Roadway Characteristics: Straight sections and horizontal curve near Olive Street; street parking allowed.
Adjacent Land Use: Combination of commercial businesses, retail stores, and residential units with direct driveway access.
Other Conditions: School located near Spruce Street with yellow school crosswalks at nearby intersections.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, it is recommended that the 35 mph speed limit be maintained.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 35 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

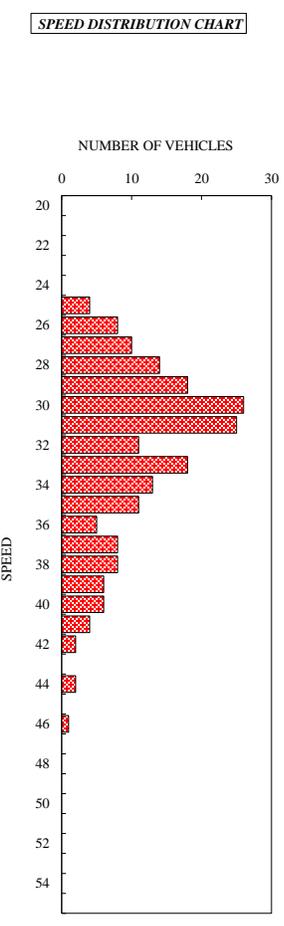
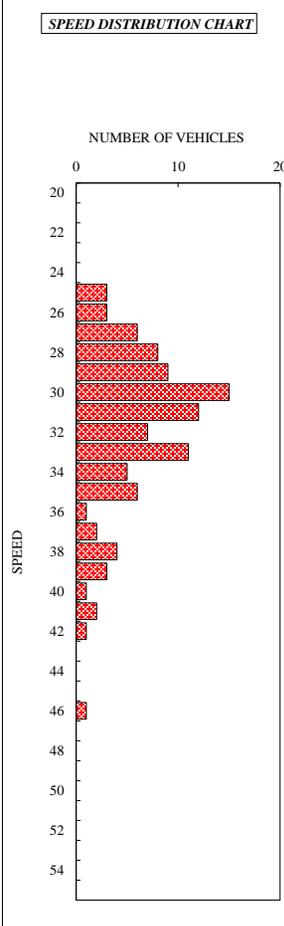
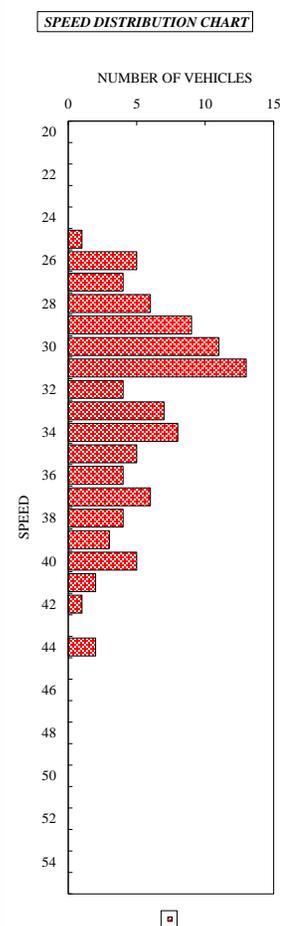
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/16/2017 DAY: WEDNESDAY TIME: 4:00-5:20PM

41. THORNTON AVENUE BETWEEN CHERRY STREET & WILLOW STREET

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED						
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %			
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%			
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%			
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%			
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%			
24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%	24 mph	0	0.0%	0.0%			
25 mph	1	1.0%	1.0%	25 mph	3	3.0%	3.0%	25 mph	4	2.0%	2.0%			
26 mph	5	5.0%	6.0%	26 mph	3	3.0%	6.0%	26 mph	8	4.0%	6.0%			
27 mph	4	4.0%	10.0%	27 mph	6	6.0%	12.0%	27 mph	10	5.0%	11.0%			
28 mph	6	6.0%	16.0%	28 mph	8	8.0%	20.0%	28 mph	14	7.0%	18.0%			
29 mph	9	9.0%	25.0%	29 mph	9	9.0%	29.0%	29 mph	18	9.0%	27.0%			
30 mph	11	11.0%	36.0%	30 mph	15	15.0%	44.0%	30 mph	26	13.0%	40.0%			
31 mph	13	13.0%	49.0%	31 mph	12	12.0%	56.0%	31 mph	25	12.5%	52.5%			
32 mph	4	4.0%	53.0%	32 mph	7	7.0%	63.0%	32 mph	11	5.5%	58.0%			
33 mph	7	7.0%	60.0%	33 mph	11	11.0%	74.0%	33 mph	18	9.0%	67.0%			
34 mph	8	8.0%	68.0%	34 mph	5	5.0%	79.0%	34 mph	13	6.5%	73.5%			
35 mph	5	5.0%	73.0%	35 mph	6	6.0%	85.0%	35 mph	11	5.5%	79.0%			
36 mph	4	4.0%	77.0%	36 mph	1	1.0%	86.0%	36 mph	5	2.5%	81.5%			
37 mph	6	6.0%	83.0%	37 mph	2	2.0%	88.0%	37 mph	8	4.0%	85.5%			
38 mph	4	4.0%	87.0%	38 mph	4	4.0%	92.0%	38 mph	8	4.0%	89.5%			
39 mph	3	3.0%	90.0%	39 mph	3	3.0%	95.0%	39 mph	6	3.0%	92.5%			
40 mph	5	5.0%	95.0%	40 mph	1	1.0%	96.0%	40 mph	6	3.0%	95.5%			
41 mph	2	2.0%	97.0%	41 mph	2	2.0%	98.0%	41 mph	4	2.0%	97.5%			
42 mph	1	1.0%	98.0%	42 mph	1	1.0%	99.0%	42 mph	2	1.0%	98.5%			
43 mph	0	0.0%	98.0%	43 mph	0	0.0%	99.0%	43 mph	0	0.0%	98.5%			
44 mph	2	2.0%	100.0%	44 mph	0	0.0%	99.0%	44 mph	2	1.0%	99.5%			
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	99.0%	45 mph	0	0.0%	99.5%			
46 mph	0	0.0%	100.0%	46 mph	1	1.0%	100.0%	46 mph	1	0.5%	100.0%			
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%			
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%			
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%			
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%			
51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%	51 mph	0	0.0%	100.0%			
52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%	52 mph	0	0.0%	100.0%			
53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%	53 mph	0	0.0%	100.0%			
54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%	54 mph	0	0.0%	100.0%			
55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%	55 mph	0	0.0%	100.0%			
TOTAL:	100	100.0%		TOTAL:	100	100.0%		TOTAL:	200	100.0%				
AVERAGE SPEED: 32.8				AVERAGE SPEED: 31.8				AVERAGE SPEED: 32.3						
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	27.9	28.0	29.8	32.0	38.0	39.1		SPEEDS:	27.0	28.0	29.0	31.0	37.0	39.0
10 MPH PACE SPEED	28-37	NUMBER IN PACE	73	PERCENT	73.0%			10 MPH PACE SPEED	26-35	NUMBER IN PACE	82	PERCENT	82.0%	
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH		SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	99	64	27	5	0	0		TOTAL:	97	56	15	4	1	0
PERCENTAGE:	99.0%	64.0%	27.0%	5.0%	0.0%	0.0%		PERCENTAGE:	97.0%	56.0%	15.0%	4.0%	1.0%	0.0%



42. Thornton Avenue (between Willow St. and Gateway Blvd.)

This segment of Thornton Avenue extends west from Willow Street then curves north to Gateway Boulevard. It consists of two through lanes separated by centerline striping and raised center medians. There are sections with raised curb-and-gutters and sections with unimproved dirt shoulders. Parking is not allowed. It is classified as an arterial road in the Newark General Plan. The adjacent land use consists of residential and warehouse uses near Willow Street, and undeveloped/natural landscape to Gateway Boulevard. The segment carries through trips between central Newark and Route 84.

Speed Data

There is an existing posted speed limit of 45 mph. There is a westbound speed limit sign located near Willow Street that is obstructed by foliage and a westbound sign near Marshlands Road. There is an eastbound sign near Gateway Boulevard. The measured 85th-percentile speed was recorded as follows:

<u>Thornton Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Willow St. to Gateway Blvd.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	45 mph	52.0 mph	45 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 45 mph. The combination of higher speed vehicles and lower speed trucks, including trucks turning in and out of warehouse facilities, warrants an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 50 mph, resulting in a 45 mph speed limit.

Improvements

The speed limit in the eastbound direction transitions from 45 mph west of Willow Street to 35 mph east of Willow Street. In order to alert motorists of the speed limit change, it is recommended that an eastbound speed reduction warning sign ("35 Ahead" with Arrow, CaMUTCD Type W3-5) be installed on Thornton Avenue west of Willow Street.

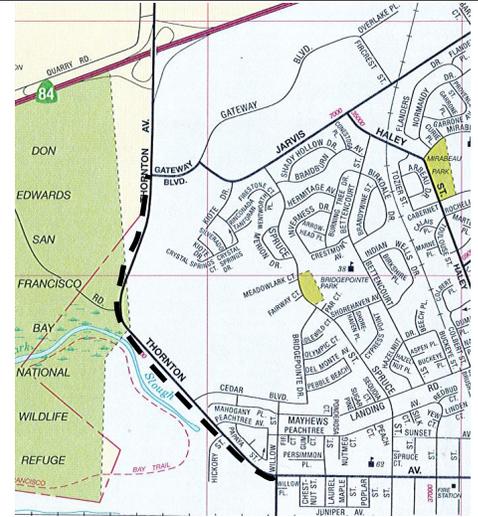
It is recommended that the westbound 45 mph speed limit sign located west of Willow Street be cleared of obstructing foliage or moved.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: THORNTON AVENUE
Limits: between Willow Street and Gateway Boulevard

SPEED DATA

Location of Survey: near Peachtree Ave. and Marshlands Rd.
Date Taken: 8/22/17
Existing Speed Limit: 45 mph
85th Percentile Speed: 52.0 mph
10-mph Pace Speed: 43-52 mph
% Vehicles in Pace/Above/Below: 72% / 12% / 16%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 11 ('12 = 0, '13 = 2, '14 = 0, '15 = 3, '16 = 6)
Speed Related Accidents: Total = 1 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 1)
Accident Rate (accs. per million vehicle miles): 0.44 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 1.16 mile
Average Daily Traffic: 11,759 ADT
Street Classification: Arterial
No. of lanes: 2 lanes with medians and center line striping.
Roadway Characteristics: Straight sections and horizontal curves near Willow Street and Marshlands Road; street parking not allowed.
Adjacent Land Use: Residential and warehouse uses near Willow Street and undeveloped land on both sides to Gateway Boulevard.
Other Conditions: Combination of higher speed vehicles and lower speed trucks, and trucks turning in and out of warehouse facility.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include higher speed vehicles and lower speed trucks, and trucks turning in and out of warehouse facility, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 50 mph, resulting in a 45 mph speed limit.

Recommended Speed Limit = 45 mph

Existing Speed Limit = 45 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

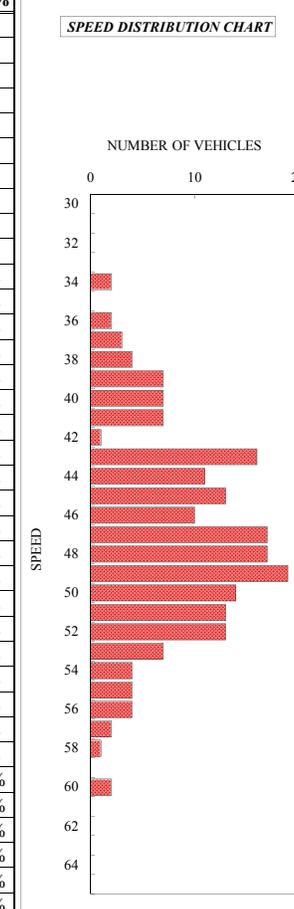
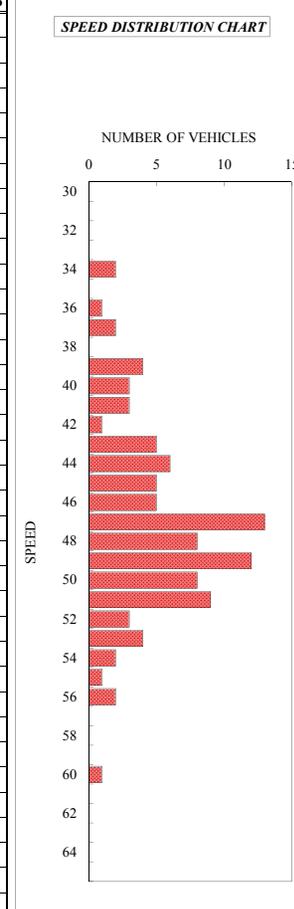
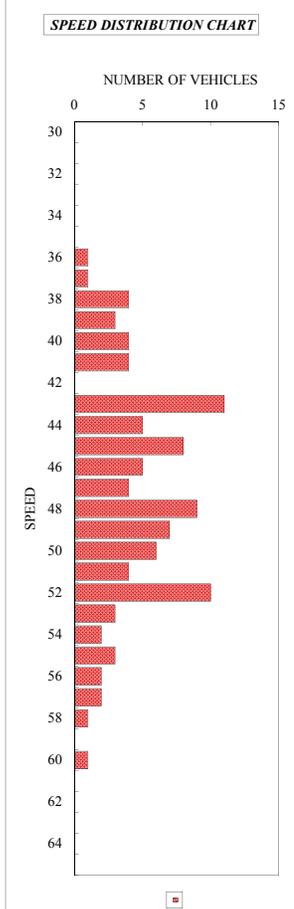
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/22/2017 DAY: TUESDAY TIME: 12:10-12:45PM

42. THORNTON AVENUE BETWEEN WILLOW STREET & GATEWAY BOULEVARD

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED							
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %				
30 mph	0	0.0%	0.0%	30 mph	0	0.0%	0.0%	30 mph	0	0.0%	0.0%				
31 mph	0	0.0%	0.0%	31 mph	0	0.0%	0.0%	31 mph	0	0.0%	0.0%				
32 mph	0	0.0%	0.0%	32 mph	0	0.0%	0.0%	32 mph	0	0.0%	0.0%				
33 mph	0	0.0%	0.0%	33 mph	0	0.0%	0.0%	33 mph	0	0.0%	0.0%				
34 mph	0	0.0%	0.0%	34 mph	2	2.0%	2.0%	34 mph	2	1.0%	1.0%				
35 mph	0	0.0%	0.0%	35 mph	0	0.0%	2.0%	35 mph	0	0.0%	1.0%				
36 mph	1	1.0%	1.0%	36 mph	1	1.0%	3.0%	36 mph	2	1.0%	2.0%				
37 mph	1	1.0%	2.0%	37 mph	2	2.0%	5.0%	37 mph	3	1.5%	3.5%				
38 mph	4	4.0%	6.0%	38 mph	0	0.0%	5.0%	38 mph	4	2.0%	5.5%				
39 mph	3	3.0%	9.0%	39 mph	4	4.0%	9.0%	39 mph	7	3.5%	9.0%				
40 mph	4	4.0%	13.0%	40 mph	3	3.0%	12.0%	40 mph	7	3.5%	12.5%				
41 mph	4	4.0%	17.0%	41 mph	3	3.0%	15.0%	41 mph	7	3.5%	16.0%				
42 mph	0	0.0%	17.0%	42 mph	1	1.0%	16.0%	42 mph	1	0.5%	16.5%				
43 mph	11	11.0%	28.0%	43 mph	5	5.0%	21.0%	43 mph	16	8.0%	24.5%				
44 mph	5	5.0%	33.0%	44 mph	6	6.0%	27.0%	44 mph	11	5.5%	30.0%				
45 mph	8	8.0%	41.0%	45 mph	5	5.0%	32.0%	45 mph	13	6.5%	36.5%				
46 mph	5	5.0%	46.0%	46 mph	5	5.0%	37.0%	46 mph	10	5.0%	41.5%				
47 mph	4	4.0%	50.0%	47 mph	13	13.0%	50.0%	47 mph	17	8.5%	50.0%				
48 mph	9	9.0%	59.0%	48 mph	8	8.0%	58.0%	48 mph	17	8.5%	58.5%				
49 mph	7	7.0%	66.0%	49 mph	12	12.0%	70.0%	49 mph	19	9.5%	68.0%				
50 mph	6	6.0%	72.0%	50 mph	8	8.0%	78.0%	50 mph	14	7.0%	75.0%				
51 mph	4	4.0%	76.0%	51 mph	9	9.0%	87.0%	51 mph	13	6.5%	81.5%				
52 mph	10	10.0%	86.0%	52 mph	3	3.0%	90.0%	52 mph	13	6.5%	88.0%				
53 mph	3	3.0%	89.0%	53 mph	4	4.0%	94.0%	53 mph	7	3.5%	91.5%				
54 mph	2	2.0%	91.0%	54 mph	2	2.0%	96.0%	54 mph	4	2.0%	93.5%				
55 mph	3	3.0%	94.0%	55 mph	1	1.0%	97.0%	55 mph	4	2.0%	95.5%				
56 mph	2	2.0%	96.0%	56 mph	2	2.0%	99.0%	56 mph	4	2.0%	97.5%				
57 mph	2	2.0%	98.0%	57 mph	0	0.0%	99.0%	57 mph	2	1.0%	98.5%				
58 mph	1	1.0%	99.0%	58 mph	0	0.0%	99.0%	58 mph	1	0.5%	99.0%				
59 mph	0	0.0%	99.0%	59 mph	0	0.0%	99.0%	59 mph	0	0.0%	99.0%				
60 mph	1	1.0%	100.0%	60 mph	1	1.0%	100.0%	60 mph	2	1.0%	100.0%				
61 mph	0	0.0%	100.0%	61 mph	0	0.0%	100.0%	61 mph	0	0.0%	100.0%				
62 mph	0	0.0%	100.0%	62 mph	0	0.0%	100.0%	62 mph	0	0.0%	100.0%				
63 mph	0	0.0%	100.0%	63 mph	0	0.0%	100.0%	63 mph	0	0.0%	100.0%				
64 mph	0	0.0%	100.0%	64 mph	0	0.0%	100.0%	64 mph	0	0.0%	100.0%				
65 mph	0	0.0%	100.0%	65 mph	0	0.0%	100.0%	65 mph	0	0.0%	100.0%				
TOTAL:	100	100.0%		TOTAL:	100	100.0%		TOTAL:	200	100.0%					
AVERAGE SPEED: 47.1				AVERAGE SPEED: 47.0				AVERAGE SPEED: 47.1							
PERCENTILE:	10%	15%	25%	50%	85%	90%		PERCENTILE:	10%	15%	25%	50%	85%	90%	
SPEEDS:	40.0	41.0	43.0	47.5	52.0	54.0		SPEEDS:	40.0	41.0	44.0	47.5	52.0	53.0	
10 MPH PACE SPEED	43-52	NUMBER IN PACE		67	PERCENT:	69.0%		10 MPH PACE SPEED	43-52	NUMBER IN PACE		74	PERCENT:	74.0%	
SPEED EXCEEDED:	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH		SPEED EXCEEDED:	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	
TOTAL:	100	87	59	28	6	0		TOTAL:	98	88	68	22	3	0	
PERCENTAGE:	100.0%	87.0%	59.0%	28.0%	6.0%	0.0%		PERCENTAGE:	98.0%	88.0%	68.0%	22.0%	3.0%	0.0%	



43. Thornton Avenue (between Gateway Blvd. and State Route 84)

This segment of Thornton Avenue is a relatively short segment that extends in a primarily north-south direction between Gateway Boulevard and State Route 84 (where it continues as Paseo Padre Parkway). It consists of five lanes between Gateway Boulevard and the State Route 84 eastbound ramps (two southbound through lanes and two northbound through lanes plus a right turn lane that extends from Gateway Boulevard). Then 4 lanes (2 in each direction) between the State Route 84 eastbound and westbound ramps intersections. Parking is not allowed. It is classified as an arterial road in the Newark General Plan. The segment carries through trips to/from Route 84 and Paseo Padre Parkway.

Speed Data

There is an existing speed limit of 45 mph. There are no speed limit signs within the segment (between Gateway Boulevard and SR-84), but there is a southbound speed limit sign located just south of Gateway Boulevard and a northbound sign is located near Marshlands Road. The measured 85th-percentile speed was recorded as follows:

<u>Thornton Avenue:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Gateway Blvd. to State Route 84</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	45 mph	49.0 mph	45 mph (no change)

Recommendation

Based on the measured 85th-percentile speed and existing street characteristics, it is recommended the speed limit be maintained at 45 mph. The combination of higher speed vehicles and lower speed trucks warrants an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 50 mph, resulting in a 45 mph speed limit.

Improvements

It appears there used to be a southbound 45 mph speed limit sign located south of the State Route 84 eastbound off-ramp which is now missing. It is recommended a 45 mph speed limit sign be installed/replaced.

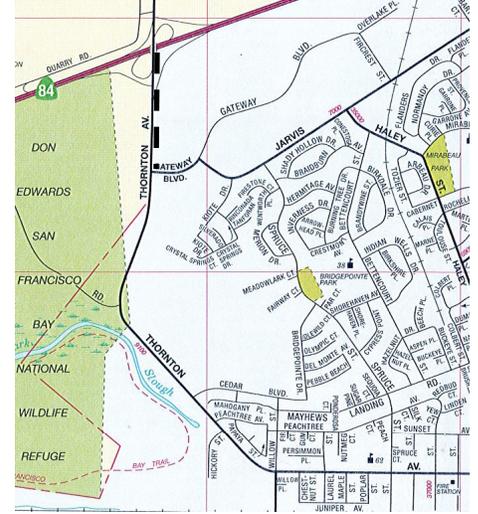
Consideration could be given to installing a northbound 45 mph speed limit sign north of Gateway Boulevard, but given the short segment length it is not mandatory.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: THORNTON AVENUE
Limits: between Gateway Boulevard and State Route 84

SPEED DATA

Location of Survey: between Gateway Blvd. and State Route 84
Date Taken: 8/22/17
Existing Speed Limit: 45 mph
85th Percentile Speed: 49.0 mph
10-mph Pace Speed: 40-49 mph
% Vehicles in Pace/Above/Below: 73% / 14% / 13%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 1 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 1)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.10 a/mvm
Statewide Average Rate: 1.48 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.32 mile
Average Daily Traffic: 17,623 ADT
Street Classification: Arterial
No. of lanes: 5 lanes (3 northbound lanes and 2 southbound lanes) between Gateway Boulevard and SR-84 eastbound ramps;
4 lanes between eastbound ramps and westbound ramps.
Roadway Characteristics: Straight sections and horizontal curves near Willow Street and Marshlands Road; street parking not allowed.
Adjacent Land Use: Business park on the east side (no direct access) and undeveloped land on the west side.
Other Conditions: Combination of higher speed vehicles and lower speed trucks traveling between Route 84 and central Newark.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include higher speed vehicles and lower speed trucks, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 50 mph, resulting in a 45 mph speed limit.

Recommended Speed Limit = 45 mph

Existing Speed Limit = 45 mph

Speed Limit Change? No

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 8/22/2017 DAY: TUESDAY TIME: 11:10-12:00PM

43. THORNTON AVENUE BETWEEN GATEWAY BOULEVARD & STATE ROUTE 84

DIRECTION: EAST BOUND				DIRECTION: WEST BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
30 mph	0	0.0%	0.0%	30 mph	0	0.0%	0.0%	30 mph	0	0.0%	0.0%									
31 mph	0	0.0%	0.0%	31 mph	0	0.0%	0.0%	31 mph	0	0.0%	0.0%									
32 mph	0	0.0%	0.0%	32 mph	0	0.0%	0.0%	32 mph	0	0.0%	0.0%									
33 mph	0	0.0%	0.0%	33 mph	0	0.0%	0.0%	33 mph	0	0.0%	0.0%									
34 mph	0	0.0%	0.0%	34 mph	2	2.0%	2.0%	34 mph	2	1.0%	1.0%									
35 mph	2	2.0%	2.0%	35 mph	1	1.0%	3.0%	35 mph	3	1.5%	2.5%									
36 mph	3	3.0%	5.0%	36 mph	0	0.0%	3.0%	36 mph	3	1.5%	4.0%									
37 mph	2	2.0%	7.0%	37 mph	4	4.0%	7.0%	37 mph	6	3.0%	7.0%									
38 mph	1	1.0%	8.0%	38 mph	4	4.0%	11.0%	38 mph	5	2.5%	9.5%									
39 mph	4	4.0%	12.0%	39 mph	3	3.0%	14.0%	39 mph	7	3.5%	13.0%									
40 mph	6	6.0%	18.0%	40 mph	6	6.0%	20.0%	40 mph	12	6.0%	19.0%									
41 mph	7	7.0%	25.0%	41 mph	8	8.0%	28.0%	41 mph	15	7.5%	26.5%									
42 mph	7	7.0%	32.0%	42 mph	10	10.0%	38.0%	42 mph	17	8.5%	35.0%									
43 mph	8	8.0%	40.0%	43 mph	11	11.0%	49.0%	43 mph	19	9.5%	44.5%									
44 mph	10	10.0%	50.0%	44 mph	10	10.0%	59.0%	44 mph	20	10.0%	54.5%									
45 mph	7	7.0%	57.0%	45 mph	9	9.0%	68.0%	45 mph	16	8.0%	62.5%									
46 mph	8	8.0%	65.0%	46 mph	8	8.0%	76.0%	46 mph	16	8.0%	70.5%									
47 mph	9	9.0%	74.0%	47 mph	5	5.0%	81.0%	47 mph	14	7.0%	77.5%									
48 mph	5	5.0%	79.0%	48 mph	3	3.0%	84.0%	48 mph	8	4.0%	81.5%									
49 mph	3	3.0%	82.0%	49 mph	5	5.0%	89.0%	49 mph	8	4.0%	85.5%									
50 mph	6	6.0%	88.0%	50 mph	2	2.0%	91.0%	50 mph	8	4.0%	89.5%									
51 mph	3	3.0%	91.0%	51 mph	2	2.0%	93.0%	51 mph	5	2.5%	92.0%									
52 mph	2	2.0%	93.0%	52 mph	2	2.0%	95.0%	52 mph	4	2.0%	94.0%									
53 mph	1	1.0%	94.0%	53 mph	1	1.0%	96.0%	53 mph	2	1.0%	95.0%									
54 mph	3	3.0%	97.0%	54 mph	3	3.0%	99.0%	54 mph	6	3.0%	98.0%									
55 mph	2	2.0%	99.0%	55 mph	0	0.0%	99.0%	55 mph	2	1.0%	99.0%									
56 mph	0	0.0%	99.0%	56 mph	1	1.0%	100.0%	56 mph	1	0.5%	99.5%									
57 mph	0	0.0%	99.0%	57 mph	0	0.0%	100.0%	57 mph	0	0.0%	99.5%									
58 mph	1	1.0%	100.0%	58 mph	0	0.0%	100.0%	58 mph	1	0.5%	100.0%									
59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%	59 mph	0	0.0%	100.0%									
60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%	60 mph	0	0.0%	100.0%									
61 mph	0	0.0%	100.0%	61 mph	0	0.0%	100.0%	61 mph	0	0.0%	100.0%									
62 mph	0	0.0%	100.0%	62 mph	0	0.0%	100.0%	62 mph	0	0.0%	100.0%									
63 mph	0	0.0%	100.0%	63 mph	0	0.0%	100.0%	63 mph	0	0.0%	100.0%									
64 mph	0	0.0%	100.0%	64 mph	0	0.0%	100.0%	64 mph	0	0.0%	100.0%									
65 mph	0	0.0%	100.0%	65 mph	0	0.0%	100.0%	65 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	44.8	TOTAL:	100	100.0%		AVERAGE SPEED:	44.0	TOTAL:	200	100.0%		AVERAGE SPEED:	44.4			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	39.0	40.0	41.8	44.5	50.0	51.0	SPEEDS:	38.0	40.0	41.0	44.0	49.0	50.0	SPEEDS:	39.0	40.0	41.0	44.0	49.0	51.0
10 MPH PACE SPEED	39-48	NUMBER IN PACE	71	PERCENT:	71.0%		10 MPH PACE SPEED	40-49	NUMBER IN PACE:	75	PERCENT:	75.0%		10 MPH PACE SPEED	40-49	NUMBER IN PACE:	145	PERCENT:	72.5%	
SPEED EXCEEDED:	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	SPEED EXCEEDED:	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	SPEED EXCEEDED:	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH
TOTAL:	98	82	43	12	1	0	TOTAL:	97	80	32	9	1	0	TOTAL:	195	162	75	21	2	0
PERCENTAGE:	98.0%	82.0%	43.0%	12.0%	1.0%	0.0%	PERCENTAGE:	97.0%	80.0%	32.0%	9.0%	1.0%	0.0%	PERCENTAGE:	97.5%	81.0%	37.5%	10.5%	1.0%	0.0%

44. Willow Street (between Cedar Blvd. and Thornton Ave.)

This segment of Willow Street extends in a primarily north-south direction between Cedar Boulevard and Thornton Avenue. It is a straight and flat two lane road with yellow centerline striping. There are curb & gutters with sidewalks along both sides. Parking is not allowed. It is classified as a collector road in the Newark General Plan. The segment is bordered by a residential neighborhood (no direct access to units).

Speed Data

There is an existing posted speed limit of 40 mph. There is a southbound sign located south of Cedar Boulevard a northbound sign north of Thornton Avenue. The measured 85th-percentile speed was recorded as follows:

<u>Willow Street:</u>	<u>Speed</u>	<u>85th %</u>	<u>Recommended</u>
<u>Cedar Blvd. to Thornton Ave.</u>	<u>Limit</u>	<u>Speed</u>	<u>Speed Limit</u>
	40 mph	37.2 mph	35 mph (NEW)

Recommendation

Based on the measured 85th-percentile speed and street characteristics, it is recommended that a new speed limit be established at 35 mph for the segment. Due to the roadway improvements and new construction along Willow Street south of Thornton Avenue, the segment of Willow Street north of Thornton Avenue to Cedar Boulevard has been evaluated separately. This segment is located in a residential area, with associated pedestrian and bicycle activity. This segment has an 85th-percentile speed of 37.2 mph. It is recommended that the speed limit be established at the nearest rounded 85th-percentile speed, resulting in a new speed limit of 35 mph.

Improvements

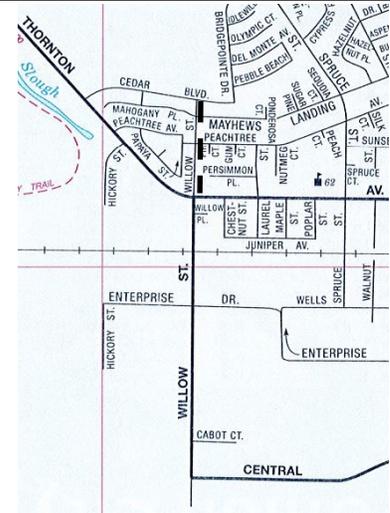
Replace the existing speed limit signs (40 mph) with 35 mph speed limit signs.

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **WILLOW STREET**
Limits: **between Cedar Boulevard and Thornton Avenue**

SPEED DATA

Location of Survey: between Mayhews Landing Rd. and Peachtree Ave.
Date Taken: 5/3/19
Existing Speed Limit: 40 mph
85th Percentile Speed: 37.2 mph
10-mph Pace Speed: 29-38 mph
% Vehicles in Pace/Above/Below: 81% / 7% / 12%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Speed Related Accidents: Total = 0 ('12 = 0, '13 = 0, '14 = 0, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.00 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.24 mile
Average Daily Traffic: 5,177 ADT
Street Classification: Collector
No. of lanes: 2 lanes with center line striping.
Roadway Characteristics: Straight; flat; curb & gutters with sidewalks.
Adjacent Land Use: Residential (no direct access).

Other Conditions:

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include residential neighborhood with associated pedestrian and bicycle activity, it is recommended the speed limit be established at the nearest rounded 85th-percentile speed of 35 mph.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 40 mph

Speed Limit Change? YES

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

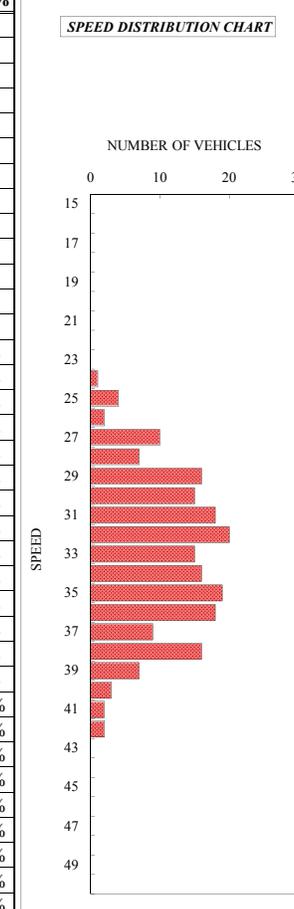
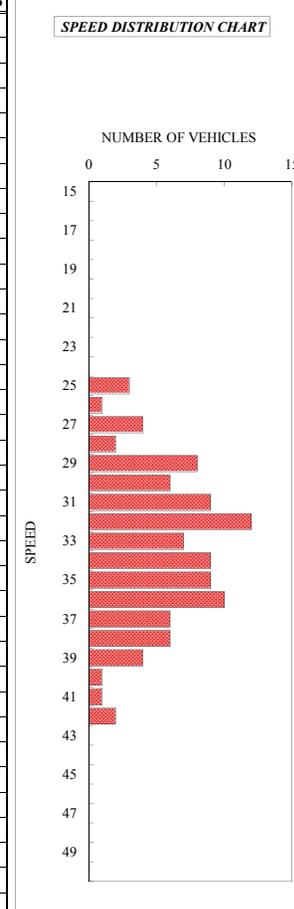
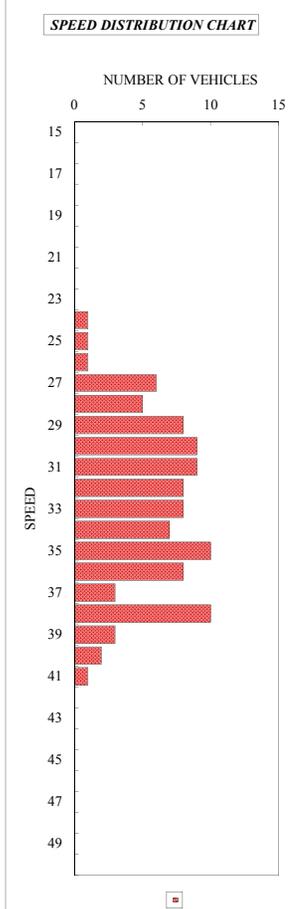
B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 5/3/2019 DAY: MONDAY TIME: 12:10-3:00PM

44. WILLOW STREET BETWEEN CEDAR BOULEVARD & THORNTON AVENUE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%									
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%	23 mph	0	0.0%	0.0%									
24 mph	1	1.0%	1.0%	24 mph	0	0.0%	0.0%	24 mph	1	0.5%	0.5%									
25 mph	1	1.0%	2.0%	25 mph	3	3.0%	3.0%	25 mph	4	2.0%	2.5%									
26 mph	1	1.0%	3.0%	26 mph	1	1.0%	4.0%	26 mph	2	1.0%	3.5%									
27 mph	6	6.0%	9.0%	27 mph	4	4.0%	8.0%	27 mph	10	5.0%	8.5%									
28 mph	5	5.0%	14.0%	28 mph	2	2.0%	10.0%	28 mph	7	3.5%	12.0%									
29 mph	8	8.0%	22.0%	29 mph	8	8.0%	18.0%	29 mph	16	8.0%	20.0%									
30 mph	9	9.0%	31.0%	30 mph	6	6.0%	24.0%	30 mph	15	7.5%	27.5%									
31 mph	9	9.0%	40.0%	31 mph	9	9.0%	33.0%	31 mph	18	9.0%	36.5%									
32 mph	8	8.0%	48.0%	32 mph	12	12.0%	45.0%	32 mph	20	10.0%	46.5%									
33 mph	8	8.0%	56.0%	33 mph	7	7.0%	52.0%	33 mph	15	7.5%	54.0%									
34 mph	7	7.0%	63.0%	34 mph	9	9.0%	61.0%	34 mph	16	8.0%	62.0%									
35 mph	10	10.0%	73.0%	35 mph	9	9.0%	70.0%	35 mph	19	9.5%	71.5%									
36 mph	8	8.0%	81.0%	36 mph	10	10.0%	80.0%	36 mph	18	9.0%	80.5%									
37 mph	3	3.0%	84.0%	37 mph	6	6.0%	86.0%	37 mph	9	4.5%	85.0%									
38 mph	10	10.0%	94.0%	38 mph	6	6.0%	92.0%	38 mph	16	8.0%	93.0%									
39 mph	3	3.0%	97.0%	39 mph	4	4.0%	96.0%	39 mph	7	3.5%	96.5%									
40 mph	2	2.0%	99.0%	40 mph	1	1.0%	97.0%	40 mph	3	1.5%	98.0%									
41 mph	1	1.0%	100.0%	41 mph	1	1.0%	98.0%	41 mph	2	1.0%	99.0%									
42 mph	0	0.0%	100.0%	42 mph	2	2.0%	100.0%	42 mph	2	1.0%	100.0%									
43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%	43 mph	0	0.0%	100.0%									
44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%	44 mph	0	0.0%	100.0%									
45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%	45 mph	0	0.0%	100.0%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	32.8	TOTAL:	100	100.0%	AVERAGE SPEED:	33.2	TOTAL:	200	100.0%	AVERAGE SPEED:	33.0					
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	28.0	29.0	30.0	33.0	38.0	38.0	SPEEDS:	28.9	29.0	31.0	33.0	37.0	38.0	SPEEDS:	28.0	29.0	30.0	33.0	37.2	38.0
10 MPH PACE SPEED	29-38	NUMBER IN PACE		80	PERCENT:	80.0%	10 MPH PACE SPEED	29-38	NUMBER IN PACE		82	PERCENT:	82.0%	10 MPH PACE SPEED	29-38	NUMBER IN PACE		162	PERCENT:	81.0%
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	98	69	27	1	0	0	TOTAL:	97	76	30	3	0	0	TOTAL:	195	145	57	4	0	0
PERCENTAGE:	98.0%	69.0%	27.0%	1.0%	0.0%	0.0%	PERCENTAGE:	97.0%	76.0%	30.0%	3.0%	0.0%	0.0%	PERCENTAGE:	97.5%	72.5%	28.5%	2.0%	0.0%	0.0%



45. Willow Street (between Thornton Avenue and Central Ave.)

This segment of Willow Street extends in a primarily north-south direction between Thornton Avenue and Central Avenue. The section between Thornton Avenue and Enterprise Drive consists of two lanes separated by centerline striping or a center two-way turn lane. The section between Enterprise Drive and Central Avenue is being redeveloped with adjacent residential units and roadway improvements. It consists of two lanes separated by raised center medians, except for one block between Cabot Court and Central Avenue which has four lanes and centerline striping. Within the improved sections, there are striped bicycle lanes and parking lanes. There are roundabouts located at the Enterprise Drive and Seawind Way intersections. It is classified as an arterial road in the Newark General Plan. The segment is bordered by a mix of undeveloped parcels, light industrial/office, and new residential units.

Speed Data

Due to the ongoing construction, speed limit signs have been removed. The segment had a posted speed limit of 45 mph at the time of the previous speed limit study. The only speed limit sign currently on the segment consists of a southbound 40 mph sign south of Thornton Avenue. (There is a westbound 40 mph sign on Central Avenue east of Willow Street. There are also "Curve/20 mph" advisory signs on the approaches to the curve at Central Avenue.) The measured 85th-percentile speed was recorded as follows:

<u>Willow Street:</u>	<u>Speed</u> <u>Limit</u>	<u>85th %</u> <u>Speed</u>	<u>Recommended</u> <u>Speed Limit</u>
Thornton Ave. to Central Ave.	(Previously 45 mph) (Currently 40 mph)	39.0 mph	35 mph (NEW)

Recommendation

Based on the measured 85th-percentile speed and street characteristics, it is recommended that a new speed limit be established at 35 mph. Factors include the recent roadway improvements, including bicycle lanes and parking lanes with vehicles moving in and out of on-street spaces; and new residential developments, including senior units, with associated pedestrian and bicycle activity. The roadway redesign has resulted in a new 85th-percentile speed of 39 mph compared to the previous speed limit study's 85th-percentile speed of 49 mph. Therefore it is recommended that an optional 5 mph reduction from the nearest rounded 85th-percentile speed of 40 mph be implemented, resulting in a new speed limit of 35 mph.

Improvements

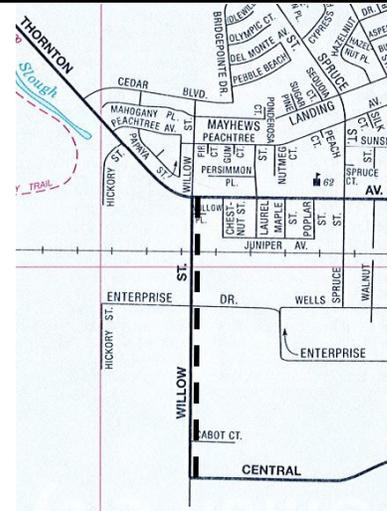
Install 35 mph speed limit signs (remove existing 40 mph speed limit sign near Thornton Avenue).

**CITY OF NEWARK
ENGINEERING & TRAFFIC SURVEY
DATA SUMMARY AND RECOMMENDED SPEED LIMIT**

Street: **WILLOW STREET**
Limits: **between Thornton Avenue and Central Avenue**

SPEED DATA

Location of Survey: between Seawind Wy. and Cabot Ct.
Date Taken: 3/18/19
Existing Speed Limit: 40 mph
85th Percentile Speed: 39.0 mph
10-mph Pace Speed: 31-40 mph
% Vehicles in Pace/Above/Below: 80% / 8% / 12%



ACCIDENT CHARACTERISTICS

Time Period Analyzed: 1/1/2012 - 12/31/2016 (5 years)
Number of Accidents: Total = 5 ('12 = 1, '13 = 1, '14 = 2, '15 = 0, '16 = 1)
Speed Related Accidents: Total = 3 ('12 = 1, '13 = 0, '14 = 2, '15 = 0, '16 = 0)
Accident Rate (accs. per million vehicle miles): 0.64 a/mvm
Statewide Average Rate: 2.21 a/mvm

ROADWAY DESIGN AND OTHER CONDITIONS

Segment Length: 0.68 mile
Average Daily Traffic: 6,336 ADT
Street Classification: Arterial
No. of lanes: 2 lanes north of Cabot Court and 4 lanes south of Cabot Court.
Roadway Characteristics: Straight; sections with improved curb & gutters and sections with unimproved shoulders; striped bicycle lanes and parking lanes in improved sections.
Adjacent Land Use: Mix of new residential units, light industrial/offices, and undeveloped parcels.
Other Conditions: Surrounding area is in the process of being developed.

SURVEY RESULTS

Recommendation: Based on the measured critical speed and the roadway characteristics, which include new adjacent residential units, new roadway design, striped bicycle lanes and parking lanes with vehicles moving in and out of parking spaces, and increased pedestrian and bicycle activity, it is recommended that an optional 5 mph downward speed zoning be applied to the nearest rounded 85th-percentile speed of 40 mph, resulting in a 35 mph speed limit.

Recommended Speed Limit = 35 mph

Existing Speed Limit = 40 mph

Speed Limit Change? YES

Prepared in accordance with Section 2B.13 of the California Manual on Uniform Traffic Control Devices and Sections 627 & 40802 of the California Vehicle Code for use by state and local authorities.

Approved By: _____

Mr. George Nickelson, PE, TE
Senior Project Manager
GHD Inc. / Omni-Means Engineers & Planners

Date:

STAMP

B A Y M E T R I C S

RADAR SPEED SURVEY

PROJECT: RADAR SPEED SURVEY IN NEWARK DATE: 3/18/2019 DAY: MONDAY TIME: 10:45AM-12:20PM

45. WILLOW STREET BETWEEN THORNTON AVENUE & CENTRAL AVENUE

DIRECTION: NORTH BOUND				DIRECTION: SOUTH BOUND				DIRECTION: COMBINED												
SPEED	#	%	CUM. %	SPEED	#	%	CUM. %	SPEED	#	%	CUM. %									
15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%	15 mph	0	0.0%	0.0%									
16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%	16 mph	0	0.0%	0.0%									
17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%	17 mph	0	0.0%	0.0%									
18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%	18 mph	0	0.0%	0.0%									
19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%	19 mph	0	0.0%	0.0%									
20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%	20 mph	0	0.0%	0.0%									
21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%	21 mph	0	0.0%	0.0%									
22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%	22 mph	0	0.0%	0.0%									
23 mph	1	1.0%	1.0%	23 mph	0	0.0%	0.0%	23 mph	1	0.5%	0.5%									
24 mph	2	2.0%	3.0%	24 mph	0	0.0%	0.0%	24 mph	2	1.0%	1.5%									
25 mph	1	1.0%	4.0%	25 mph	0	0.0%	0.0%	25 mph	1	0.5%	2.0%									
26 mph	1	1.0%	5.0%	26 mph	1	1.0%	1.0%	26 mph	2	1.0%	3.0%									
27 mph	2	2.0%	7.0%	27 mph	3	3.0%	4.0%	27 mph	5	2.5%	5.5%									
28 mph	1	1.0%	8.0%	28 mph	2	2.0%	6.0%	28 mph	3	1.5%	7.0%									
29 mph	2	2.0%	10.0%	29 mph	1	1.0%	7.0%	29 mph	3	1.5%	8.5%									
30 mph	3	3.0%	13.0%	30 mph	4	4.0%	11.0%	30 mph	7	3.5%	12.0%									
31 mph	5	5.0%	18.0%	31 mph	6	6.0%	17.0%	31 mph	11	5.5%	17.5%									
32 mph	3	3.0%	21.0%	32 mph	10	10.0%	27.0%	32 mph	13	6.5%	24.0%									
33 mph	6	6.0%	27.0%	33 mph	10	10.0%	37.0%	33 mph	16	8.0%	32.0%									
34 mph	11	11.0%	38.0%	34 mph	10	10.0%	47.0%	34 mph	21	10.5%	42.5%									
35 mph	14	14.0%	52.0%	35 mph	10	10.0%	57.0%	35 mph	24	12.0%	54.5%									
36 mph	11	11.0%	63.0%	36 mph	11	11.0%	68.0%	36 mph	22	11.0%	65.5%									
37 mph	9	9.0%	72.0%	37 mph	8	8.0%	76.0%	37 mph	17	8.5%	74.0%									
38 mph	7	7.0%	79.0%	38 mph	10	10.0%	86.0%	38 mph	17	8.5%	82.5%									
39 mph	8	8.0%	87.0%	39 mph	3	3.0%	89.0%	39 mph	11	5.5%	88.0%									
40 mph	4	4.0%	91.0%	40 mph	4	4.0%	93.0%	40 mph	8	4.0%	92.0%									
41 mph	3	3.0%	94.0%	41 mph	2	2.0%	95.0%	41 mph	5	2.5%	94.5%									
42 mph	3	3.0%	97.0%	42 mph	1	1.0%	96.0%	42 mph	4	2.0%	96.5%									
43 mph	1	1.0%	98.0%	43 mph	1	1.0%	97.0%	43 mph	2	1.0%	97.5%									
44 mph	1	1.0%	99.0%	44 mph	2	2.0%	99.0%	44 mph	3	1.5%	99.0%									
45 mph	1	1.0%	100.0%	45 mph	1	1.0%	100.0%	45 mph	2	1.0%	100.0%									
46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%	46 mph	0	0.0%	100.0%									
47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%	47 mph	0	0.0%	100.0%									
48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%	48 mph	0	0.0%	100.0%									
49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%	49 mph	0	0.0%	100.0%									
50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%	50 mph	0	0.0%	100.0%									
TOTAL:	100	100.0%		AVERAGE SPEED:	35.1	TOTAL:	100	100.0%		AVERAGE SPEED:	34.9	TOTAL:	200	100.0%		AVERAGE SPEED:	35.0			
PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%	PERCENTILE:	10%	15%	25%	50%	85%	90%
SPEEDS:	29.9	31.0	32.0	35.0	39.0	40.0	SPEEDS:	30.0	31.0	32.0	35.0	38.0	40.0	SPEEDS:	30.0	31.0	32.0	35.0	39.0	40.0
10 MPH PACE SPEED	31-40	NUMBER IN PACE	78	PERCENT:	78.0%	10 MPH PACE SPEED	30-39	NUMBER IN PACE	82	PERCENT:	82.0%	10 MPH PACE SPEED	31-40	NUMBER IN PACE:	160	PERCENT:	80.0%			
SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	SPEED EXCEEDED:	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH
TOTAL:	96	1	16	0	0	0	TOTAL:	100	89	43	7	0	0	TOTAL:	196	176	91	16	0	0
PERCENTAGE:	96.0%	92.0%	49.0%	14.0%	2.0%	0.0%	PERCENTAGE:	100.0%	89.0%	43.0%	7.0%	0.0%	0.0%	PERCENTAGE:	98.0%	88.0%	45.5%	8.0%	0.0%	0.0%

