

Complete Streets Commission



REGULAR MEETING AGENDA

Date: 7/11/2018
Time: 7:00 p.m.
Senior Center
110 Terminal Ave., Menlo Park, CA 94025

A. Call To Order

B. Roll Call

C. Reports and Announcements

Under “Reports and Announcements,” staff and Commission members may communicate general information of interest regarding matters within the jurisdiction of the Commission. No Commission discussion or action can occur on any of the presented items.

D. Public Comment

Under “Public Comment,” the public may address the Commission on any subject not listed on the agenda. Each speaker may address the Commission once under Public Comment for a limit of three minutes. Please clearly state your name and address or political jurisdiction in which you live. The Commission cannot act on items not listed on the agenda and, therefore, the Commission cannot respond to non-agenda issues brought up under Public Comment other than to provide general information.

E. Regular Business

E1. Approve the Complete Streets Commission regular meeting minutes of June 13, 2018 ([Attachment](#))

E2. Provide feedback on the Draft Belle Haven Neighborhood Traffic Calming Plan and implementation process to be recommended to the City Council for approval ([Staff Report #18-006-CSC](#))

F. Informational Items

F1. Update on major project status

G. Committee/Subcommittee Reports

G1. Update from Active Transportation Network Subcommittee (Behroozi/Kirsch/Nash/Weiner)

G2. Update from EV Subcommittee (Meyer/Nash/Walser)

G3. Update from Downtown Access and Parking Subcommittee (Behroozi/Levin/Nash)

G4. Update from Multimodal Subcommittee (Levin/Walser)

G5. Update from Placemaking and Outreach Subcommittee (Lee/Meyer)

- G6. Update from Safe Routes to School Program Subcommittee (Lee/Mazzara/Walser/Meyer)
- G7. Update from Transportation Master Plan Subcommittee (Behroozi/Levin/Nash)

H. Adjournment

At every Regular Meeting of the Commission, in addition to the Public Comment period where the public shall have the right to address the Commission on any matters of public interest not listed on the agenda, members of the public have the right to directly address the Commission on any item listed on the agenda at a time designated by the Chair, either before or during the Commission's consideration of the item.

At every Special Meeting of the Commission, members of the public have the right to directly address the Commission on any item listed on the agenda at a time designated by the Chair, either before or during consideration of the item.

Any writing that is distributed to a majority of the Commission by any person in connection with an agenda item is a public record (subject to any exemption under the Public Records Act) and is available for inspection at the City Clerk's Office, 701 Laurel St., Menlo Park, CA 94025 during regular business hours.

Persons with disabilities, who require auxiliary aids or services in attending or participating in Commission meetings, may call the City Clerk's Office at 650-330-6620.

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REGULAR MEETING MINUTES - DRAFT

Date: 6/13/2018
Time: 7:00 p.m.
City Council Chambers
701 Laurel St., Menlo Park, CA 94025

A. Call to Order

Chair Kirsch called the meeting to order at 7:03 p.m.

B. Roll Call

Present: Behroozi, Kirsch, Lee, Levin, Mazzara, Meyer, Nash, Walser, Weiner
Absent: None
Staff: Associate Transportation Engineers Rene Baile and Kevin Chen

C. Reports and Announcements

Staff Chen provided a summary of City Council actions on transportation related items since the May 9, 2018, Complete Streets Commission meeting, and announced the Safe Routes to School Program consultant selection.

At this time, Commissioner Levin arrived at 7:08 p.m. and reported a need for the Commission to revisit the Ravenswood Avenue Railroad Crossing Project at a later commission meeting based on the latest City Council actions on the project.

D. Public Comment

- Cecilia Taylor spoke about the upcoming June 19, 2018, City Council agenda item intended to alleviate the existing congestion in the Belle Haven neighborhood.
- Diane Bailey spoke in support of City Council action to alleviate Belle Haven neighborhood traffic and an update on ongoing and upcoming mobility programs in which residents can participate.

E. Regular Business

- E1. Approve the Complete Streets Commission regular meeting minutes of May 9, 2018 (Attachment)

ACTION: Motion and second (Weiner/Nash) to approve the Complete Streets Commission regular meeting minutes of May 9, 2018. The motion passed (9-0-0).

- E2. Consider recommendation to City Council to approve the implementation of the Baywood Avenue, Clover Lane, Blackburn Avenue, McKendry Drive and Marmona Drive traffic plan for a six-month trial (Staff Report #18-005-CSC)

Staff Baile provided a presentation (Attachment).

- Amar Murugan, a Baywood Avenue resident, spoke in support of making the temporary Willows neighborhood turn restriction signs permanent and staff's recommendation to remove proposed speed hump on Baywood Avenue from the project scope.
- Jen Wolosin spoke in support of having speed hump on Baywood Avenue and maintaining bicycle access with the Clover Lane full closure.

ACTION: Motion and second (Levin/Kirsch) to recommendation to City Council to approve the implementation of the Baywood Avenue, Clover Lane, Blackburn Avenue, McKendry Drive and Marmona Drive traffic plan for a six-month trial with provisions below:

- Ensure proper bicycle through access on Clover Lane with proposed full closure
- Reserve right to reinstate speed hump onto Baywood Avenue pending trial results
- Reexamine the adequacy of six-month trial results, if and when the City Council provides a final decision on the temporary Willows neighborhood turn restrictions.

The motion passed (8-1-0; Meyer dissented).

- E3. Provide feedback on Active Transportation Network Subcommittee's project recommendations and request inclusion into the next round of Transportation Master Plan citywide recommendation project list

Chair Kirsch tabled the item due to recent City Council actions and shifts in staff workload.

F. Informational Items

- F1. Update on major project status

Staff Chen provided updates on the Safe Routes to School Program, Oak Grove, University, Crane Bicycle Improvement Project, Ravenswood Avenue Railroad Crossing Project, Middle Avenue Pedestrian and Bicycle Rail Crossing Project, Downtown/El Camino Real Specific Plan Biennial Review. Chair Kirsch inquired update for the Sharon Road Sidewalk Project, located between Alameda de las Pulgas and Altschul Avenue.

G. Committee/Subcommittee Reports

- G1. Update from Active Transportation Network Subcommittee

There was no report in addition to Item E3.

- G2. Update from EV Subcommittee

Nash reported a future meeting opportunity with Menlo Spark to discuss relevant items mentioned in Diane Bailey's public comment period.

- G3. Update from Downtown Access and Parking Subcommittee

Levin reported meeting with a Housing Commissioners and will attend the June 18, 2018, Planning Commission meeting to provide comments on the El Camino Real/Downtown Specific Plan Biennial Review on behalf of the Commission.

G4. Update from Multimodal Subcommittee

There was no report.

G5. Update from Placemaking and Outreach Subcommittee

Lee reported meeting with Parents for Safe Routes about launching a new program for the next school year.

G6. Update from Safe Routes to School Program Subcommittee

There was no report in addition to staff updates.

G7. Update from Transportation Master Plan Subcommittee

Levin reported attending the May 30, 2018, Oversight and Outreach Committee meeting and many of the previous comments were incorporated into the future work scope.

H. Adjournment

Chair Kirsch adjourned the meeting at 9:19 p.m.

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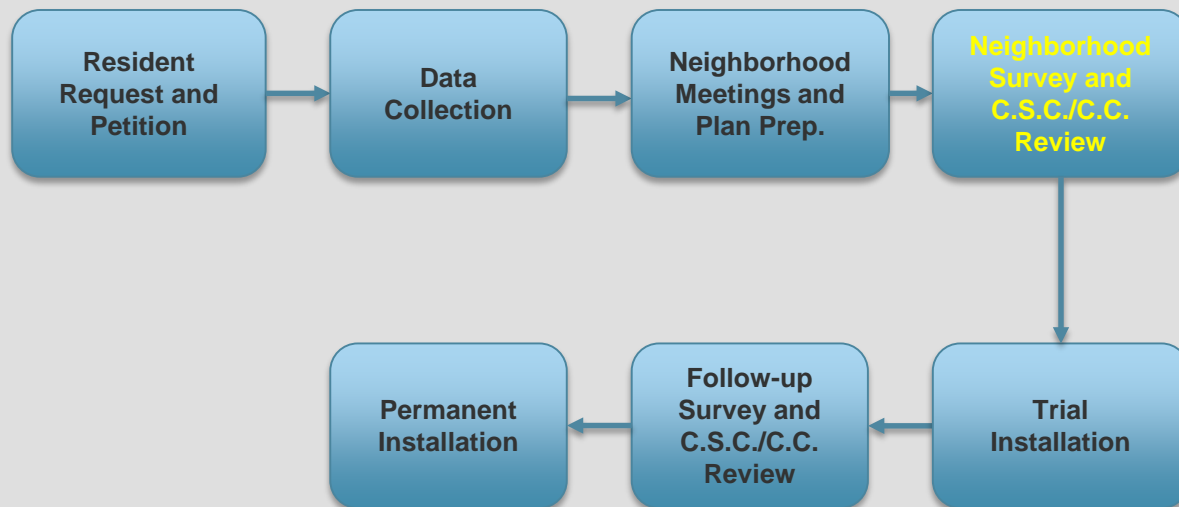
**CONSIDER RECOMMENDATION TO CITY COUNCIL TO
APPROVE THE IMPLEMENTATION OF BAYWOOD AVENUE,
CLOVER LANE, BLACKBURN AVENUE, MCKENDRY DRIVE AND
MARMONA DRIVE TRAFFIC PLAN FOR A SIX-MONTH TRIAL
(NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM)**

JUNE 13, 2018

BACKGROUND

- September 18, 2017 – City staff received the Neighborhood Action Request Form or petition with signatures from 80% or 139 or 180 households
- November 8, 2017 – Complete Streets Commission considered and passed a motion (7-0-1-1) to move project to the next step in the NTMP process
- December 19, 2017 – Community meeting held to gather feedback/comments on the neighborhood traffic plan. Five residents participated.

LEVEL II MEASURES (NTMP)



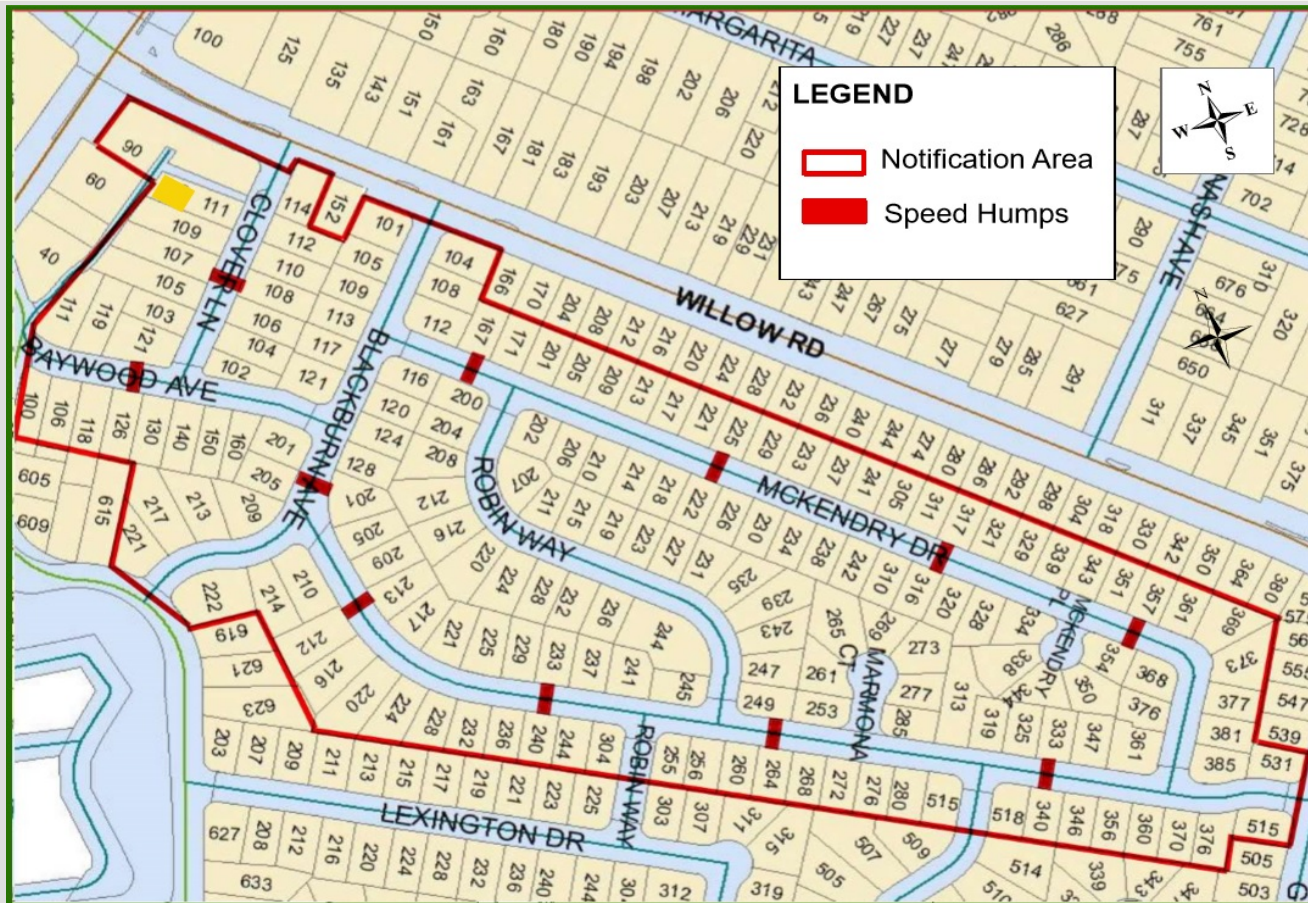
SURVEY FOR TRIAL INSTALLATION

- February 23, 2018 – Staff circulated the resident survey for trial installation with a March 19, 2018 due date for returning the completed survey.
- March 21, 2018 – Staff circulated survey second time with a April 4 due date for returning the completed survey.
- NTMP requirement – 51% yes on supporting the plan



TRAFFIC VOLUME, SPEED, AND ACCIDENT DATA

Roadway	85 th Percentile Speeds (mph)	24 hour volumes (vehicles)	Collision Statistics (Three years from 2013-2015)
Baywood Avenue	30.6 (EB); 28.9 (WB)	913 (EB); 431 (WB); 1344 (TOT)	0
Blackburn Avenue	19.7 (NB); 22.6 (SB)	196 (NB); 465 (SB); 661 (TOT)	1
Clover Lane	25.1 (NB); 24.2 (SB)	105 (NB); 104 (SB); 209 (TOT)	0
Marmona Drive	31.1 (EB); 25.9 (WB)	934 (EB); 346 (WB); 1280 (TOT)	0
McKendry Drive	29.5 (EB); 23.9 (WB)	168 (EB); 83 (WB); 251 (TOT)	0

- 2009 Traffic Volumes – Marmona Drive – 463; Clove Lane - 110; McKendry Drive – 270
- Traffic Volume Increase in 2017– Marmona Drive – 190%; Clover Lane- 185%; McKendry Drive – 55%



LEGEND

-  Notification Area
-  Speed Humps



Location: Marmona Drive & Neighboring Streets
Project: Marmona Drive NTMP Project



City of Menlo Park
Transportation Division
(650) 330-6770

Date: 7/25/2017
Req. By: RCB

Neighborhood Traffic Management Plan

Baywood Avenue, Clover Lane, Blackburn Avenue,
McKendry Drive and Marmona Drive

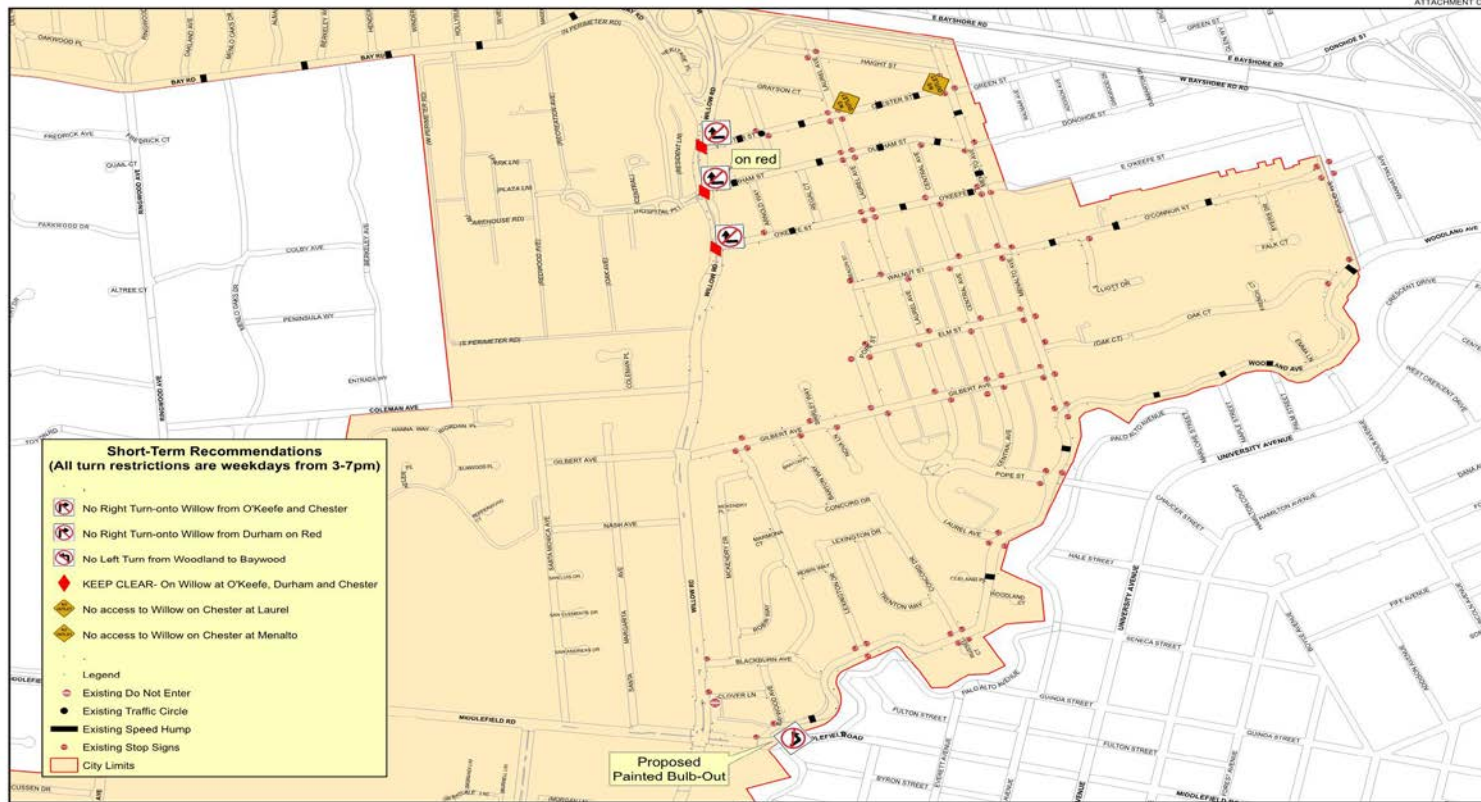


RESULTS OF THE SURVEY

- Yes, I support the plan – 102 votes or 58.6 %
- No, I do not support the plan – 25 votes or 14.4 %
- No response – 47 votes or 27%

PURPOSE OF THIS MEETING

- Commission - review the neighborhood traffic plan
- Commission - recommend either plan revisions, or Council approval for temporary implementation of the plan on a six-month trial.





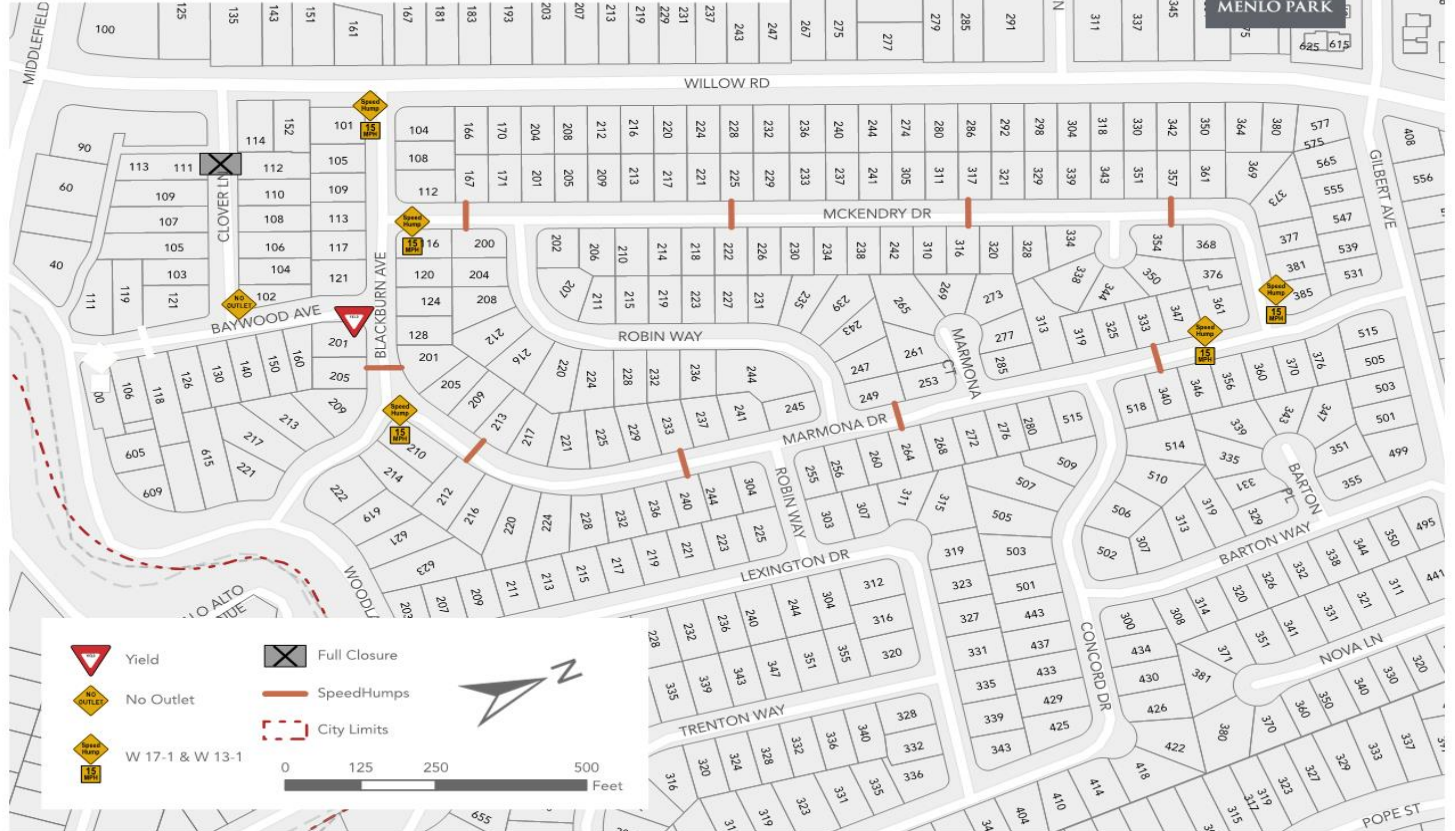
TRAFFIC VOLUME AND SPEED DATA (AFTER TURN RESTRICTION ON WOODLAND AVENUE TO BAYWOOD AVENUE)



Roadway	85 th Percentile Speeds (mph)	24-hour Volumes (vehicles)
Baywood Avenue	26.9 (EB); 26.6 (WB)	431 (EB); 366 (WB); 797 (total)
Blackburn Avenue	20.8 (NB); 20.9 (SB)	183 (NB); 333 (SB); 516 (total)
Clover Lane	24.0 (NB); 16.3 (SB)	74 (NB); 50 (SB); 124 (total)
Marmona Drive	26.6 (EB); 27.6 (WB)	496 (EB); 279 (WB); 775 (total)
McKendry Drive	27.4 (EB); 26.7 (WB)	152 (EB); 76 (WB); 228 (total)

Neighborhood Traffic Management Plan

Baywood Avenue, Clover Lane, Blackburn Avenue,
McKendry Drive and Marmona Drive





TEMPORARY OR PERMANENT SPEED HUMP





TEMPORARY ROADWAY CLOSURE MATERIALS





SAMPLE FULL ROADWAY CLOSURE



NEXT STEPS

City Council – review the prepared traffic plan and background information

City Council – either deny, recommend plan revisions, or approve temporary installation for a six-month trial

City– after approval by Council and after appropriate environmental clearances have been obtained, will install the recommended measures for a trial period of six months.

THANK YOU

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STAFF REPORT

Complete Streets Commission

Meeting Date: 7/11/2018
Staff Report Number: 18-006-CSC

Consent Calendar: Provide feedback on the Draft Belle Haven Neighborhood Traffic Calming Plan and implementation process to be recommended to the City Council for approval

Recommendation

Staff recommends the Complete Streets Commission provide feedback on the Draft Belle Haven Neighborhood Traffic Calming Plan (Plan) and implementation process to be recommended to the City Council for approval.

Policy Issues

The development of the Plan and its implementation fulfill “Mitigation Measure TRA-3.1” of the Mitigation Monitoring and Reporting Program (MMRP) established in the Facebook Campus Expansion Project Final Environmental Impact Report (FEIR) approved in 2016. As it is a requirement of the MMRP, this effort is not identified in the 2018 Council Work Plan; it is considered part of staff’s baseline work.

Background

On November 1 and November 15, 2016, the City Council completed actions to approve the Facebook Campus Expansion Project FEIR. The FEIR concluded that the proposed development would generate several significant and adverse environmental impacts and established a set of feasible mitigation measures to reduce the severity and magnitude of these impacts. To ensure successful implementation and monitoring of these mitigation measures, the FEIR established a MMRP. Hibiscus Properties, LLC on behalf of Facebook, identified as the Project Sponsor in the MMRP, is financially responsible for the development, design, and/or implementation of these measures.

One of the identified mitigation measures is the development, design, and implementation of a traffic calming plan for the Belle Haven neighborhood. The Plan is intended to address neighborhood cut-through traffic, through the use of traffic calming measures, as a result of future added traffic on major streets such as Bayfront Expressway, Marsh Road, and Willow Road.

Traffic calming measures generally consist of educational, enforcement, and physical measures to influence driver behavior. Physical measures can include, but are not limited to, speed humps, intersection or mid-block curb extensions, raised intersections, signing and striping, etc. The Belle Haven neighborhood is defined as the area bounded by Willow Road to the east, the Dumbarton Rail Corridor to the north, and US 101 to the south.

On October 17, 2017, the City Council approved the draft scope of work to initiate the study for the development of the Plan. Through community feedback, the scope of work was further amended to include the evaluation of the Ringwood Avenue and Van Buren Road intersection and the Beechwood School /

Onetta Harris Community Center parking lot. The study commenced immediately following approval of the scope and traffic data was collected in November/December 2017 and supplemented in early 2018.

Since the initiation of the study, traffic impacts to the Bayfront area and Belle Haven neighborhood have been exacerbated due to the number and severity of ongoing construction projects on Chrysler Drive, Independence Drive, Chilco Street and Constitution Drive proceeding simultaneously. Cut-through traffic has continued to worsen within the neighborhood as a result.

On June 19, 2018, in response to a request submitted by the Belle Haven residents on May 22, 2018, the City Council adopted a resolution authorizing the implementation of “no through traffic” signs at four critical entry points to the neighborhood to discourage cut-through traffic. All signs have been implemented.

In addition to these new signs, other traffic calming measures already implemented in the neighborhood include:

- Left turn restriction from southbound Chilco Street to eastbound Hamilton Avenue, during weekday evening commute hours
- Bulbouts at the intersection of Chilco Street and Hamilton Avenue
- Roadway closure on Henderson Avenue at Ivy Drive, Howard Street at Windermere Avenue, Windermere Avenue at Chilco Street, and Ivy Drive in front of the Belle Haven Branch Library
- Traffic circle at the intersection of Ivy Drive / Market Place / Ringwood Avenue
- Speed humps on Terminal Avenue, Henderson Avenue, Windermere Avenue, Hollyburne Avenue, Sevier Avenue, Madera Avenue, Carlton Avenue, and Pierce Road
- A 15 miles per hour (mph) school zone bounded by Hamilton Avenue, Chilco Street, Ivy Drive, and Almanor Avenue.

The Plan, as described below, recommends additional traffic calming measures and streetscape modifications to be considered to address the concerns raised by the neighborhood.

Analysis

Data collection and finding

For the study, a variety of transportation data was collected and requested. These include morning/mid-day/evening peak period intersection turning movement counts, average daily vehicular volume count, vehicular travel speed surveys, peak period vehicle classification surveys, and public transit ridership. Lastly, to properly identify the main routes used by cut-through vehicles, a comprehensive origin-destination survey was completed on two typical Tuesdays in December 2017, from 7:00 am to 10:00 am, 11:00 am to 2:00 pm, and 4:00 pm to 7:00 pm. The survey identifies cut-through vehicles by documenting the last few digits of the license plate of passing vehicles through all neighborhood entry points, including Chilco Street, Hamilton Avenue, Ivy Drive, Newbridge Street, and Pierce Road.

Based on the survey results, the noticeable cut-through routes for both the morning and evening peak hours are Ivy Drive and Newbridge Street, through Chilco Street. Hamilton Avenue carried minimal cut-through traffic; likely due to the existing no left turn restriction from southbound Chilco Street, as identified above. The summarized results are included in Attachment A. Chilco Street, Hamilton Avenue, Newbridge Street, and Pierce Road are emergency routes serving the neighborhood.

Plan Recommendations

With the main cut-through routes identified, measures were identified that could reduce cut-through traffic. Recognizing the difficulty of trying to reduce cut-through traffic significantly without creating a high level of

inconvenience to both neighborhood and service vehicles, the Plan recommended measures that could potentially reduce speed while providing secondary benefits, such as additional streetscape and added safety for biking and walking within the neighborhood.

Building on these principles and incorporating feedback staff received from recent discussions with residents of the neighborhood and from past meetings and input from the Menlo Park Fire Protection District, a set of exhibits was created to illustrate the various recommended traffic calming measures. Many of these measures, as defined below, are illustrated with sample photos in Attachment B:

- Intersection/mid-block bulb out: extends the curbs of a section of a street, generally into the street, while maintaining adequate street access for service vehicles.
- Raised intersection/crosswalk: raises an intersection or a crosswalk to match the level of adjacent sidewalk.
- Speed hump: raises a particular section of a street with a parabolic vertical device with gradual transitions.
- Time restricted loading zone (white curb; west side only): designates a curb side parking zone for a specific use.
- Limited right turn restriction: restricts turn access at an intersection during defined periods.
- Speed feedback sign: alerts drivers of their travel speed
- Neighborhood gateway treatment: identifies the entrance to a neighborhood through architectural or roadway features.
- Bike lane: designates a portion of the street, generally parallel to the curb, for bicycle use through striping.
- Shoulder stripe: delineates edge of travel lane through striping.
- Crosswalk: designates a portion of the street, generally perpendicular to the curb, for pedestrian use through striping.

As illustrated in Attachment B, up to three alternatives were developed for each street. Each alternative carries a set of opportunities and challenges, as summarized below.

Location	Alternatives	Measures	Opportunities	Challenges
Ivy Dr b/t Chilco St & Carlton Ave	Staff Rec'd (Alt 1)	Intersection bulb outs	- Reduce pedestrian crossing distance - Provide area for landscaping	- Remove localized parking - Reduce turn radii for service vehicles
	Alt 2	Bike lanes	- Creates narrower lane width and speed reduction - Separate bicycle and vehicle travel	- Removes on-street parking - Width constraint at Willow Rd intersection
	Alt 3	Add shoulder stripe	- Creates narrower lane width and speed reduction	- No physical barrier
Newbridge St b/t Chilco St & Carlton Ave	Alt 1	Intersection bulb outs	- Reduce pedestrian crossing distance - Provide area for landscaping	- Remove localized parking - Limit turns for service vehicles
	Alt 2	Bike lanes	- Creates narrower lane width and speed reduction - Separate bicycle and vehicle travel	- Width constraint at Willow Rd intersection
Chilco St b/t	Alt 1	Mid-block curb extensions	- Provide visual narrowing of the roadway to reduce speed	- Remove localized parking

Hamilton Ave & Ivy Dr	- Provide area for landscaping			
	Alt 2	Speed humps	- No parking removal required - Reduce speed	- Inhibit service vehicles travel time - May increase noise
Terminal Ave b/t Del Norte Ave & Chilco St	Alt 1	Intersection bulb outs	- Reduce pedestrian crossing distance - Provide area for landscaping	- Remove localized parking - Reduce turn radii for service vehicles

Key stakeholders coordination

While the City has jurisdiction over a majority of public roadways within the neighborhood, some recommendations will require coordination and/or consensus from focused neighborhood areas and other agencies. These stakeholders include:

- San Francisco Public Utilities Commission has jurisdiction over Ivy Drive's center median islands and approval authority for the implementation of roundabout and raised intersection recommendations on Ivy Drive.
- Caltrans has jurisdiction over Willow Road and approval authority for the implementation of the limited right turn restriction on Newbridge Street at Willow Road.
- Menlo Park Fire Protection District has interest in adequate roadway width and turning radii for the implementation of bulb outs and mid-block curb extensions.
- Focused neighborhood areas are expected to have interest in on-street parking removal for the implementation of bike lanes.

Coordination with these key stakeholders has influenced the draft recommendations. Further coordination is expected to be needed if a trial and/or permanent traffic calming measure implementation plan is approved.

Plan Implementation process and schedule

As outlined in the October 17, 2017, staff report, the implementation of the Plan, through community consensus, would need to be consistent with the policies and guidelines outlined in the City's Neighborhood Traffic Management Program (NTMP) approved in 2004. As outlined in the NTMP, implementation of any trial and permanent traffic calming measures will need to go through a comprehensive neighborhood voting process to ensure they are equitable and effective solutions.

However, through community feedback and as evidenced by the request submitted by the Belle Haven residents on May 22, 2018, a more immediate and streamlined implementation process is desired. As a result, staff recommends the following implementation process:

1. Incorporate Commission and community feedback through the July 11, 2018, Complete Streets Commission meeting and develop a Final Plan for City Council adoption.
2. If adopted, develop design plan set and specification for the 6-month trial implementation and begin dialogue with key stakeholders on applicable measures. This is proposed to eliminate the requirement of a voting process to obtain majority support for trial implementation and expedite installation.
3. When design plan set and specifications are completed, select contractor to implement measures within City jurisdiction. Measures requiring other stakeholder approvals will be implemented as approvals are reached from each agency with jurisdiction.
4. Collect new transportation data and community feedback survey for the trial implementation after study and one community meeting for final feedback.
5. Following community consensus heard at the community meeting, prepare design plan set and

specification for permanent implementation. This is proposed to eliminate the requirement of a voting process to obtain majority support for permanent implementation.

6. When design plan set and specifications are completed, contractor to implement all measures, including ones that have received stakeholder approval from step three.

The implementation process above is expected to expedite the schedule by approximately four and a half months.

In addition, staff recommends implementing crosswalks shortly after the Plan approval, while the City seek funds to upgrade existing applicable receiving curb ramps to comply with the American with Disabilities Act. This is not a common City practice as they are typically completed simultaneously. However, this recommendation will allow for new crosswalks to be implemented before the start of the next school year in fall 2018.

As stated above, traffic calming measures that require consensus from other jurisdictions will have longer implementation schedules.

Impact on City Resources

As a required condition of approval for a development project, staff time on the Belle Haven traffic calming study, development, and implementation of the Plan is considered part of the baseline City service levels. The trial and permanent implementation costs of the Final Plan would be funded by Hibiscus Properties, LLC.

Environmental Review

The Plan does not require California Environmental Quality Act (CEQA) review. Implementation of future traffic calming measures will comply with environmental review requirements under CEQA.

Public Notice

Public notification was achieved by posting the agenda, with the agenda items being listed, at least 72 hours prior to the meeting.

Attachments

- A. Origin – Destination Survey Results
- B. Traffic Calming Recommendations

Report prepared by:
Kevin Chen, Associate Transportation Engineer

Report reviewed by:
Nicole H. Nagaya, Assistant Public Works Director

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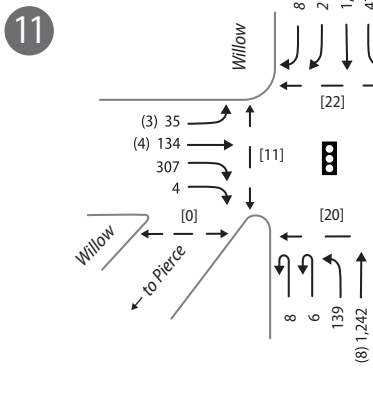
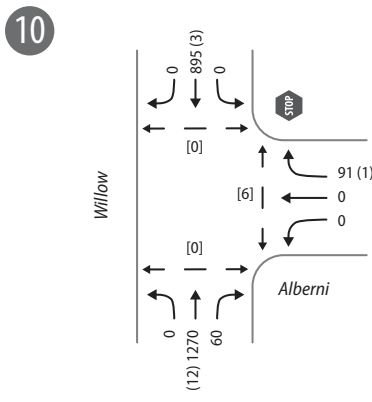
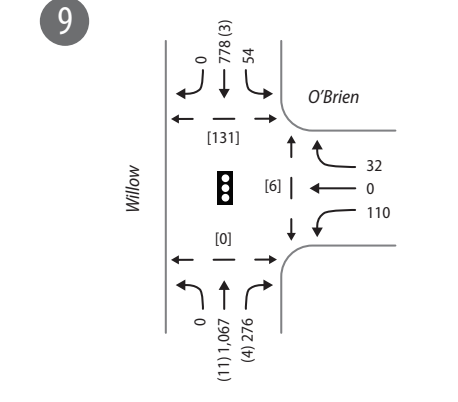
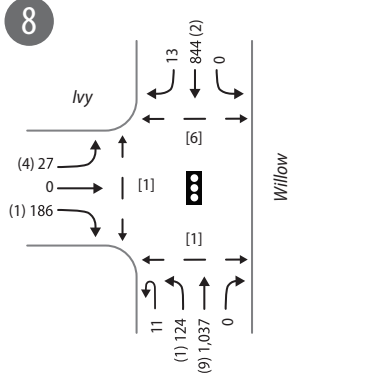
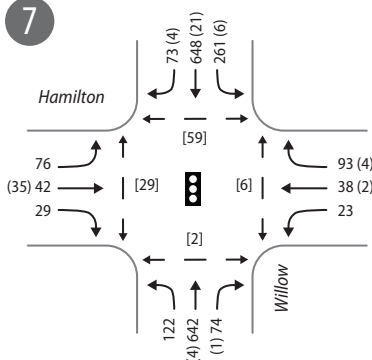
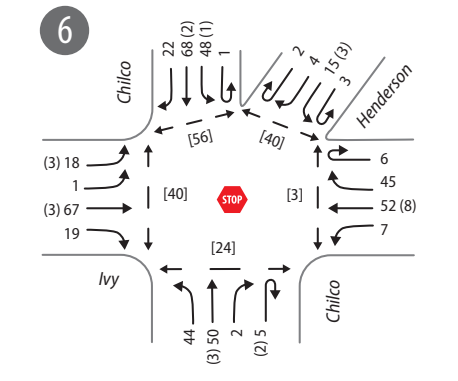
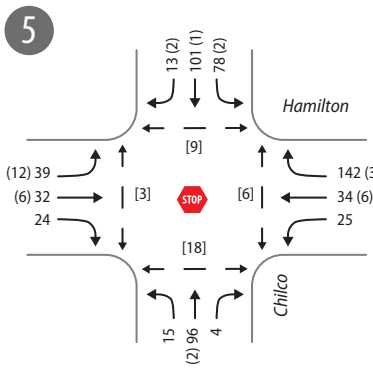
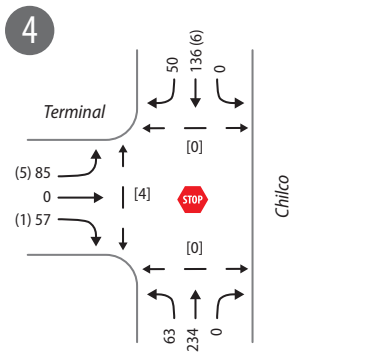
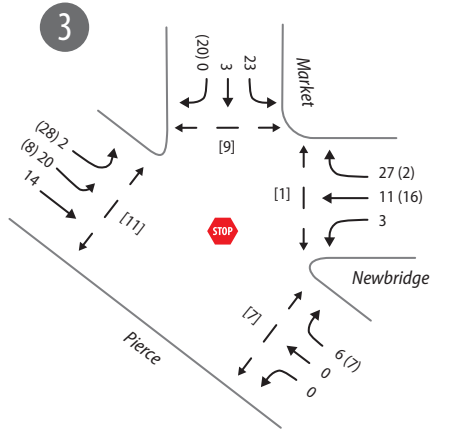
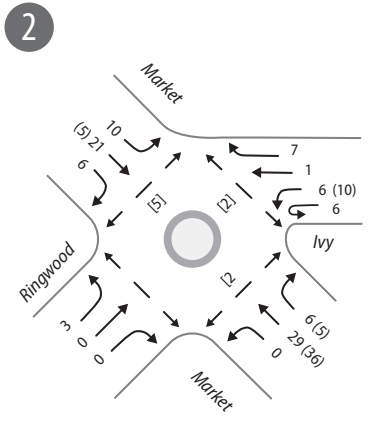
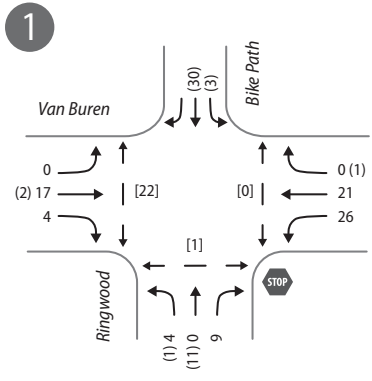
Belle Haven Neighborhood Traffic Management Plan

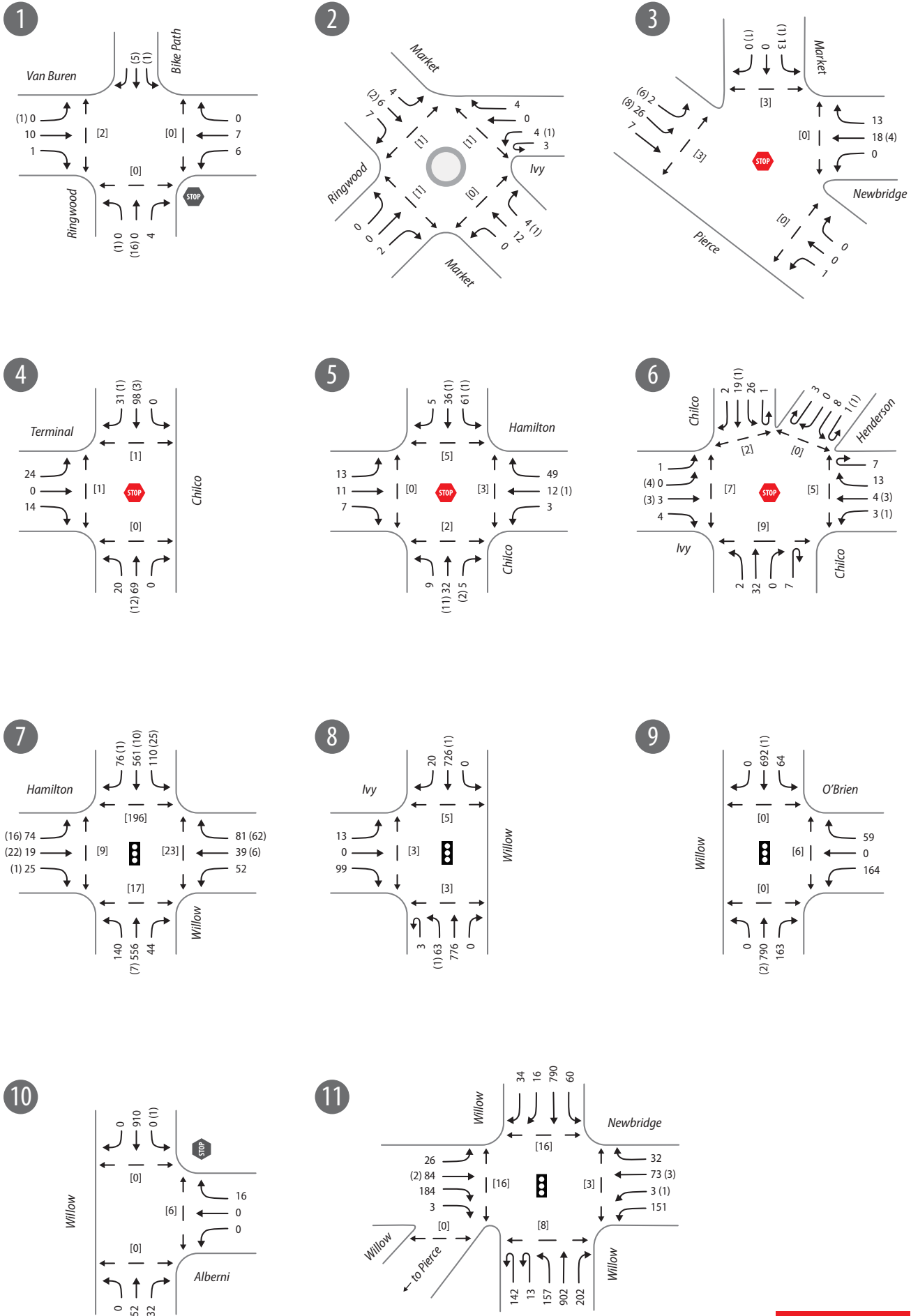
BEFORE STUDY

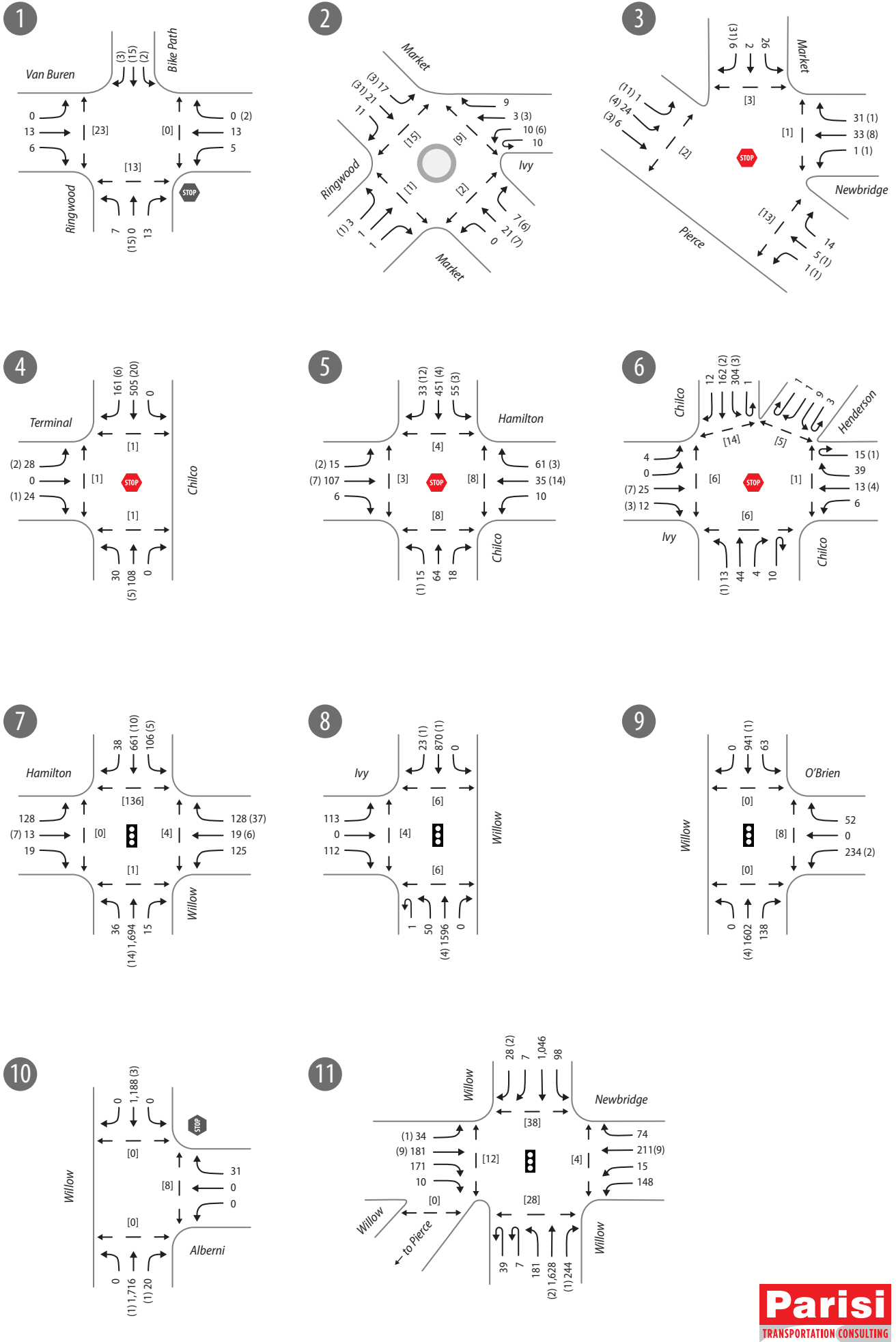


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- Figure 6: Public Transit Ridership
- Figure 7: Neighborhood Travel Patterns – AM Peak Hour
- Figure 8: Neighborhood Travel Patterns – Mid-Day Peak Hour
- Figure 9: Neighborhood Travel Patterns – PM Peak Hour
- Figure 10: Vehicle Classification Surveys – AM Peak Hour
- Figure 11: Vehicle Classification Surveys – Mid-Day Peak Hour
- Figure 12: Vehicle Classification Surveys – PM Peak Hour









ROADWAY SEGMENT					VEHICULAR TRAFFIC VOLUME			
Location	Street	Segment		Approach	Peak Hour			Daily
		From	To		AM	MD	PM	
A	Chilco Street	Terminal Avenue	Railroad Crossing	NB	340	120	170	2,500
				SB	180	120	430	3,300
				Total	520	240	600	5,800
B	Chilco Street	Hamilton Avenue	Ivy Drive	NB	110	50	90	1,100
				SB	120	70	430	2,200
				Total	230	120	520	3,300
C	Hamilton Avenue	Hazel Street	Sage Street	EB	100	80	160	1,600
				WB	180	80	70	1,500
				Total	280	160	230	3,100
D	Newbridge Street	Hollyburne Avenue	Windermere Avenue	EB	230	130	290	2,900
				WB	150	120	210	2,300
				Total	380	250	500	5,200
E	Pierce Road	Hollyburne Avenue	Windermere Avenue	EB	60	20	20	300
				WB	20	10	30	200
				Total	80	30	50	500
F	Hamilton Avenue	Carlton Avenue	Madera Avenue	EB	130	100	160	2,000
				WB	170	120	90	1,900
				Total	300	220	250	3,800
G	Carlton Avenue	Hamilton Avenue	Ivy Drive	NB	20	20	40	500
				SB	90	30	30	600
				Total	110	50	70	1,100
H	Willow Road	Hamilton Avenue	Ivy Drive	NB	750	850	1,200	15,300
				SB	330	720	870	11,500
				Total	1,080	1,570	2,070	26,800
I	Ivy Drive	Carlton Avenue	Willow Road	EB	170	100	280	2,300
				WB	110	60	70	1,200
				Total	280	160	350	3,500
J	Carlton Avenue	Ivy Drive	Newbridge Street	NB	30	30	80	700
				SB	110	20	40	800
				Total	140	50	120	1,500
K	Willow Road	Ivy Drive	Newbridge Street	NB	1,070	880	1,300	17,400
				SB	680	900	1,100	15,700
				Total	1,750	1,780	2,400	33,100
L	Newbridge Street	Carlton Avenue	East of Carlton Avenue	EB	370	260	360	5,000
				WB	250	260	420	5,000
				Total	620	520	780	10,000



Roadway Segment					Vehicular Speed	
Location	Street	Segment		Approach	85th Percentile	Daily Average
		From	To			
A	Chilco Street	Terminal Avenue	Railroad Crossing	NB	27	25
				SB	24	21
B	Chilco Street	Hamilton Avenue	Ivy Drive	NB	29	25
				SB	29	25
C	Hamilton Avenue	Hazel Street	Sage Street	EB	27	23
				WB	27	23
D	Newbridge Street	Hollyburne Avenue	Windermere Avenue	EB	25	21
				WB	25	21
E	Pierce Road	Hollyburne Avenue	Windermere Avenue	EB	23	19
				WB	25	20
F	Hamilton Avenue	Carlton Avenue	Madera Avenue	EB	27	23
				WB	27	23
G	Carlton Avenue	Hamilton Avenue	Ivy Drive	NB	26	22
				SB	27	21
H	Willow Road	Hamilton Avenue	Ivy Drive	NB	35	34
				SB	37	36
I	Ivy Drive	Carlton Avenue	Willow Road	EB	25	21
				WB	25	21
J	Carlton Avenue	Ivy Drive	Newbridge Street	NB	25	22
				SB	25	22
K	Willow Road	Ivy Drive	Newbridge Street	NB	31	31
				SB	29	30
L	Newbridge Street	Carlton Avenue	East of Carlton Avenue	EB	21	20
				WB	21	19



Belle Haven Shuttle

Daily Average Ridership			
	Boardings	Alightings	Total
Senior Center	7	0	7
Belle Haven Library	6	1	7

Source: City of Menlo Park 2017

SamTrans Bus Routes

Monthly Average Ridership			
	Boardings	Alightings	Total
Route 281			
Newbridge / Del Norte	176	806	982
Newbridge / Alpine	82	4	86
Newbridge / Hamilton	15	155	170
Newbridge / Market Pl	72	180	252
Newbridge / Almanor	198	168	366
Newbridge / Windermere	184	17	201
Newbridge / Hollyburn	229	361	590
Newbridge / Carlton	450	527	977
Newbridge / Willow	606	278	884
Newbridge / Saratoga	134	635	769
Route 296 *			
Newbridge / Willow	710	2,440	3,150
Newbridge / Saratoga	2,800	713	3,513
Route 297 *			
Newbridge / Willow	45	125	170
Newbridge / Saratoga	65	105	170

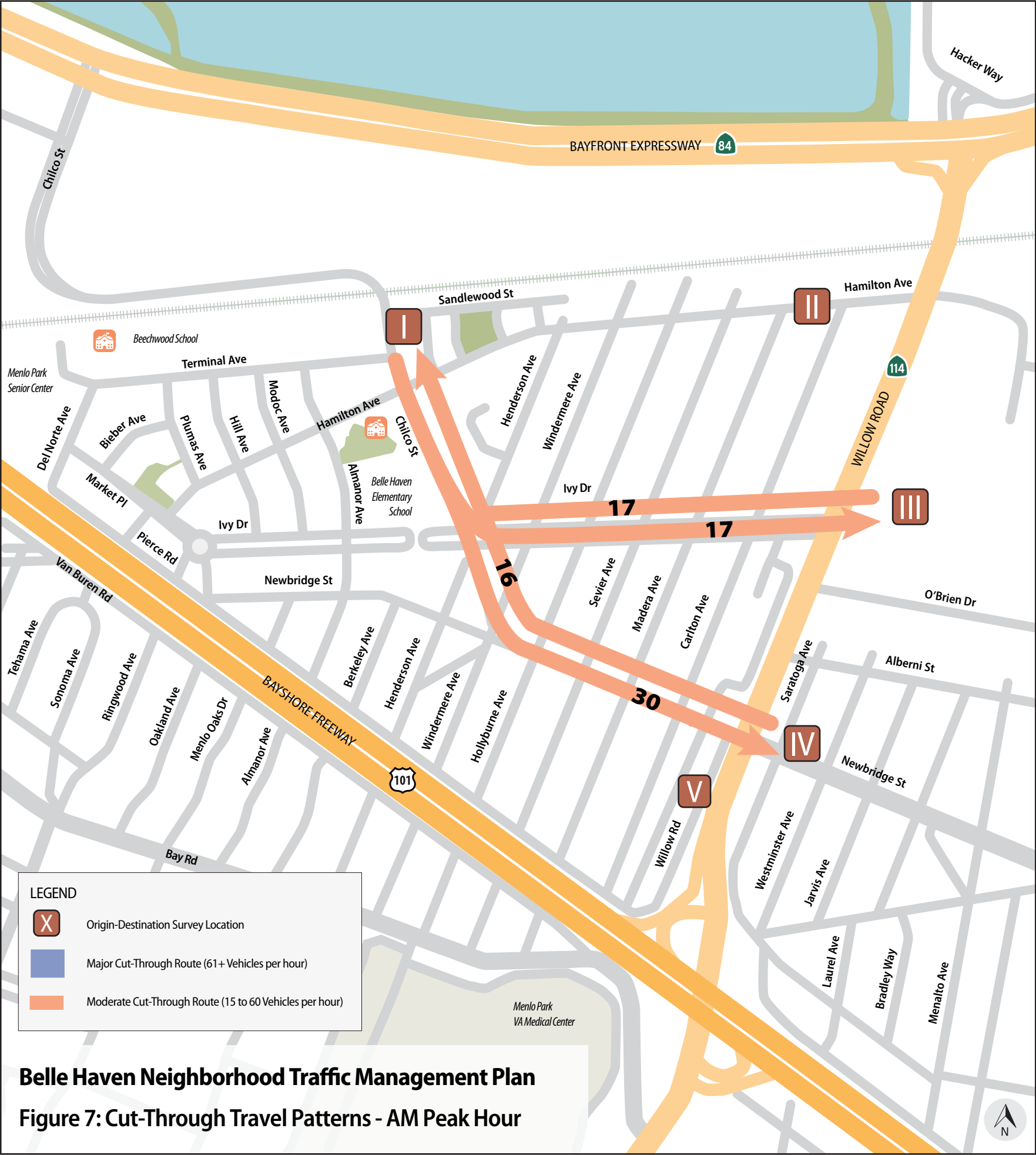
Source: SamTrans 2017

Dumbarton Express

Monthly Average Ridership	
	Total
DB	470
DB1	495

Source: SamTrans 2017

* Starting January 2018, Routes 296 and 297 were merged and became Route 296. Data collection took place before the Routes merged.



Neighborhood Travel Patterns
Weekday Morning Peak Period

One-Hour Peak Period: 7:45 a.m. to 8:45 a.m.

Peak Hour		Outbound Vehicles				Total
		I. Chilco	II. Hamilton	III. Ivy	IV. Newbridge	
Inbound Vehicles	I. Chilco	11	4	12	30	57
	II. Hamilton	1	23	2	6	32
	III. Ivy	17	2	15	17	51
	IV. Newbridge	16	0	7	32	55
	V. Pierce	0	0	0	9	9
TOTAL		45	29	36	94	204

Three-Hour Peak Period: 7:00 a.m. to 10:00 a.m.

Three-Hour Total		Outbound Vehicles				Total
		I. Chilco	II. Hamilton	III. Ivy	IV. Newbridge	
Inbound Vehicles	I. Chilco	25	6	29	63	123
	II. Hamilton	5	46	7	14	72
	III. Ivy	30	3	30	31	94
	IV. Newbridge	27	1	11	62	101
	V. Pierce	0	0	2	18	20
TOTAL		87	56	79	188	410



Nighborhood Travel Patterns

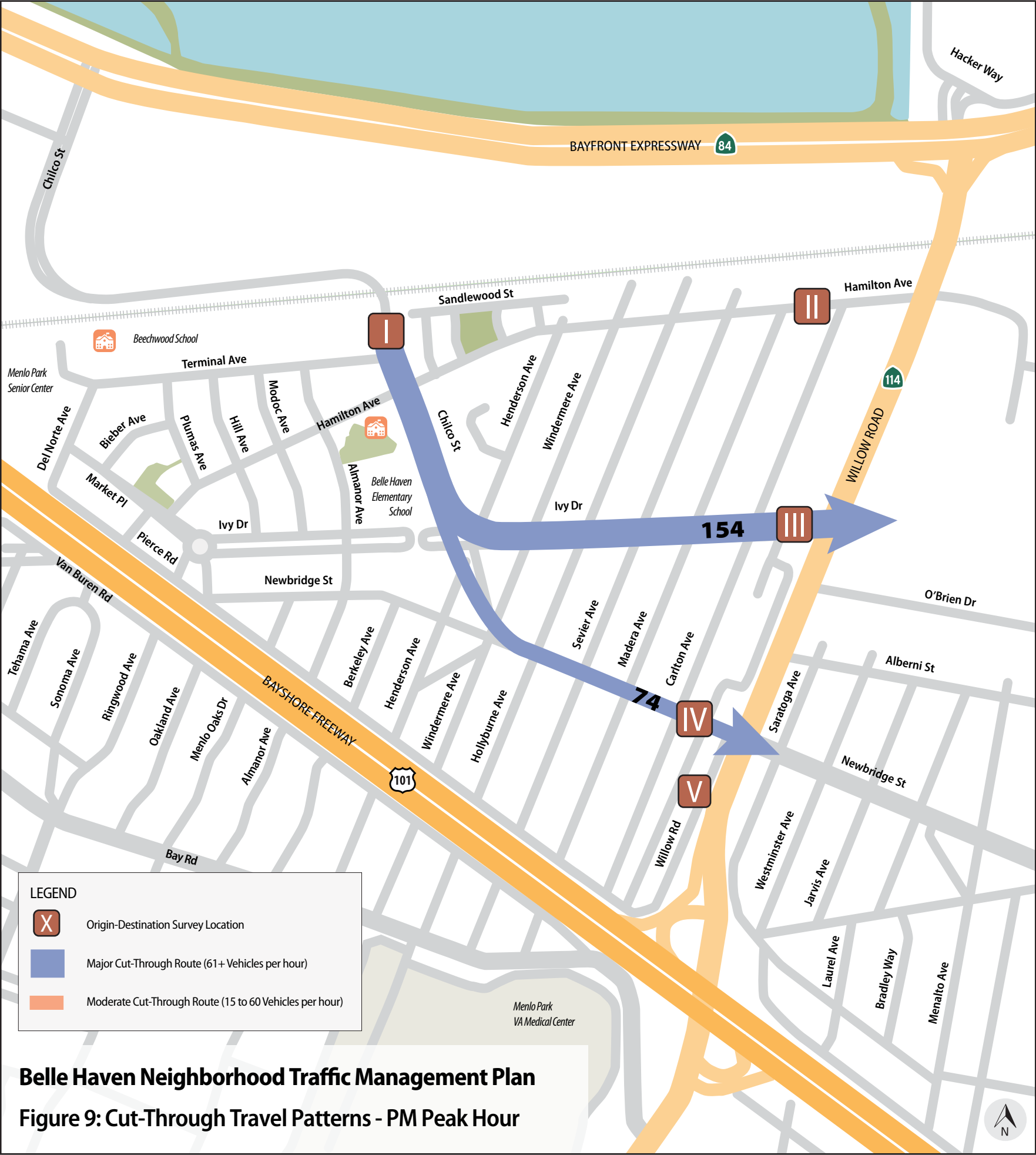
Weekday Midday Peak Period

One-Hour Peak Period: 12:00 p.m. to 1:00 p.m.

Peak Hour		Outbound Vehicles				Total
		I. Chilco	II. Hamilton	III. Ivy	IV. Newbridge	
Inbound Vehicles	I. Chilco	3	6	8	11	28
	II. Hamilton	2	29	4	4	39
	III. Ivy	2	0	9	7	18
	IV. Newbridge	7	1	5	18	31
	V. Pierce	3	0	1	23	27
TOTAL		17	36	27	63	143

Three-Hour Peak Period: 11:00 a.m. to 2:00 p.m.

Three-Hour Total		Outbound Vehicles				Total
		I. Chilco	II. Hamilton	III. Ivy	IV. Newbridge	
Inbound Vehicles	I. Chilco	15	16	14	34	79
	II. Hamilton	5	70	7	8	90
	III. Ivy	7	2	17	19	45
	IV. Newbridge	12	6	10	49	77
	V. Pierce	5	3	3	49	60
TOTAL		44	97	51	159	351



Neighborhood Travel Patterns
Weekday Evening Peak Period

One-Hour Peak Period: 4:15 p.m. to 5:15 p.m.

Peak Hour		Outbound Vehicles				Total
		I. Chilco	II. Hamilton	III. Ivy	IV. Newbridge	
Inbound Vehicles	I. Chilco	8	3	154	74	239
	II. Hamilton	2	19	3	10	34
	III. Ivy	1	4	11	6	22
	IV. Newbridge	3	0	8	36	47
	V. Pierce	0	0	1	16	17
TOTAL		14	26	177	142	359

Three-Hour Peak Period: 4:00 p.m. to 7:00 p.m.

Three-Hour Total		Outbound Vehicles				Total
		I. Chilco	II. Hamilton	III. Ivy	IV. Newbridge	
Inbound Vehicles	I. Chilco	13	7	353	191	564
	II. Hamilton	2	41	5	27	75
	III. Ivy	3	5	16	13	37
	IV. Newbridge	12	5	20	56	93
	V. Pierce	0	2	3	33	38
TOTAL		30	60	397	320	807



Vehicle Classification Surveys
Weekday Morning Peak Period: 7:00 a.m. to 10:00 a.m.

Location	Direction	School		Public Transit		Vanpool	Private Transportation		Delivery Trucks	Private Vehicle	Total
		Bus	Other	SamTrans	Other		Charter Bus	Other			
I. Chilco	In	2	0	0	1	0	1	0	0	315	319
	Out	6	0	0	1	0	0	0	3	651	661
	Total	8	0	0	2	0	1	0	3	966	980
II. Hamilton	In	1	0	0	1	1	0	0	6	352	361
	Out	0	0	0	0	0	0	0	1	341	342
	Total	1	0	0	1	1	0	0	7	693	703
III. Ivy	In	3	1	0	0	0	0	0	0	189	193
	Out	1	0	0	3	0	0	0	1	493	498
	Total	4	1	0	3	0	0	0	1	682	691
IV. Newbridge	In	13	2	11	3	0	1	2	0	295	327
	Out	14	7	11	0	0	2	3	1	873	911
	Total	27	9	22	3	0	3	5	1	1,168	1,238
V. Pierce	In	0	1	0	0	0	0	1	0	68	70
	Out	--	--	--	--	--	--	--	--	--	--
	Total	0	1	0	0	0	0	1	0	68	70
Total		40	11	22	9	1	4	6	12	3,577	3,682

NOTES:

Other School Transportation = Ravenswood City and Menlo Park City School District vans

Other Public Transportation = Menlo Park Shuttle Buses

Charter Buses = Small Unmarked shuttle busses

Private Transportation = Large transportation and “Bauer” buses / vans



Vehicle Classification Surveys

Weekday Midday Peak Period: 11:00 a.m. to 2:00 p.m.

Location	Direction	School		Public Transit		Vanpool	Private Transportation		Delivery Trucks	Private Vehicle	Total
		Bus	Other	SamTrans	Other		Charter Bus	Other			
I. Chilco	In	0	0	0	0	0	0	0	2	312	314
	Out	0	0	0	0	0	0	0	1	324	325
	Total	0	0	0	0	0	0	0	3	636	639
II. Hamilton	In	0	1	0	0	0	0	0	3	310	314
	Out	0	0	0	0	0	0	0	2	335	337
	Total	0	1	0	0	0	0	0	5	645	651
III. Ivy	In	0	0	0	0	0	0	0	1	143	144
	Out	0	0	0	2	0	1	0	1	330	334
	Total	0	0	0	2	0	1	0	2	473	478
IV. Newbridge	In	1	0	11	1	0	0	1	0	389	403
	Out	1	2	12	1	0	0	1	1	586	604
	Total	2	2	23	2	0	0	2	1	975	1,007
V. Pierce	In	0	1	0	0	0	0	1	0	122	124
	Out	--	--	--	--	--	--	--	--	--	--
	Total	0	1	0	0	0	0	1	0	122	124
Total		2	4	23	4	0	1	3	11	2,851	2,899

NOTES:

Other School Transportation = Ravenswood City and Menlo Park City School District vans

Other Public Transportation = Menlo Park Shuttle Buses

Charter Buses = Small Unmarked shuttle busses

Private Transportation = Large transportation and “Bauer” buses / vans



Vehicle Classification Surveys
Weekday Evening Peak Period: 4:00 p.m. to 7:00 p.m.

Location	Direction	School		Public Transit		Vanpool	Private Transportation		Delivery Trucks	Private Vehicle	Total
		Bus	Other	SamTrans	Other		Charter Bus	Other			
I. Chilco	In	1	0	0	8	0	0	1	10	1,767	1,787
	Out	5	0	1	0	0	0	0	2	237	245
	Total	6	0	1	8	0	0	1	12	2,004	2,032
II. Hamilton	In	1	0	0	0	0	0	0	3	611	615
	Out	0	0	0	1	0	0	3	1	376	381
	Total	1	0	0	1	0	0	3	4	987	996
III. Ivy	In	1	0	0	0	0	0	0	1	221	223
	Out	3	2	0	0	0	0	3	8	742	758
	Total	4	2	0	0	0	0	3	9	963	981
IV. Newbridge	In	10	1	6	1	0	1	0	1	550	570
	Out	9	2	7	0	0	1	0	1	757	777
	Total	19	3	13	1	0	2	0	2	1,307	1,347
V. Pierce	In	0	0	0	0	0	0	0	0	154	157
	Out	1	1	0	0	0	0	0	1	--	--
	Total	1	1	0	0	0	0	0	1	154	157
Total		31	6	14	10	0	2	7	28	5,415	5,513

NOTES:

Other School Transportation = Ravenswood City and Menlo Park City School District vans

Other Public Transportation = Menlo Park Shuttle Buses

Charter Buses = Small Unmarked shuttle busses

Private Transportation = Large transportation and “Bauer” buses / vans

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Belle Haven Neighborhood Traffic Management Plan

ALTERNATIVE ENHANCEMENTS

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Figure 18: Newbridge Street Enhancements Option B

Figure 19: Terminal Avenue Enhancement Options

Figure 20: Additional Enhancements





Marked Crosswalk



Update School Signage



Yellow Centerline



Right Turn Restrictions



Gateway Treatment



Bulbout on Chilco St only



In-Road Yield Signs



Sharrows

ADDITIONAL ENHANCEMENTS INCLUDE:

- Refresh existing crosswalk markings

Belle Haven Neighborhood Traffic Management Plan

Figure 13: Chilco Street Enhancements Option A



Marked Crosswalk



Update School Signage



Yellow Centerline



Right Turn Restrictions



Gateway Treatment



Bulbout on Chilco St only



In-Road Yield Signs



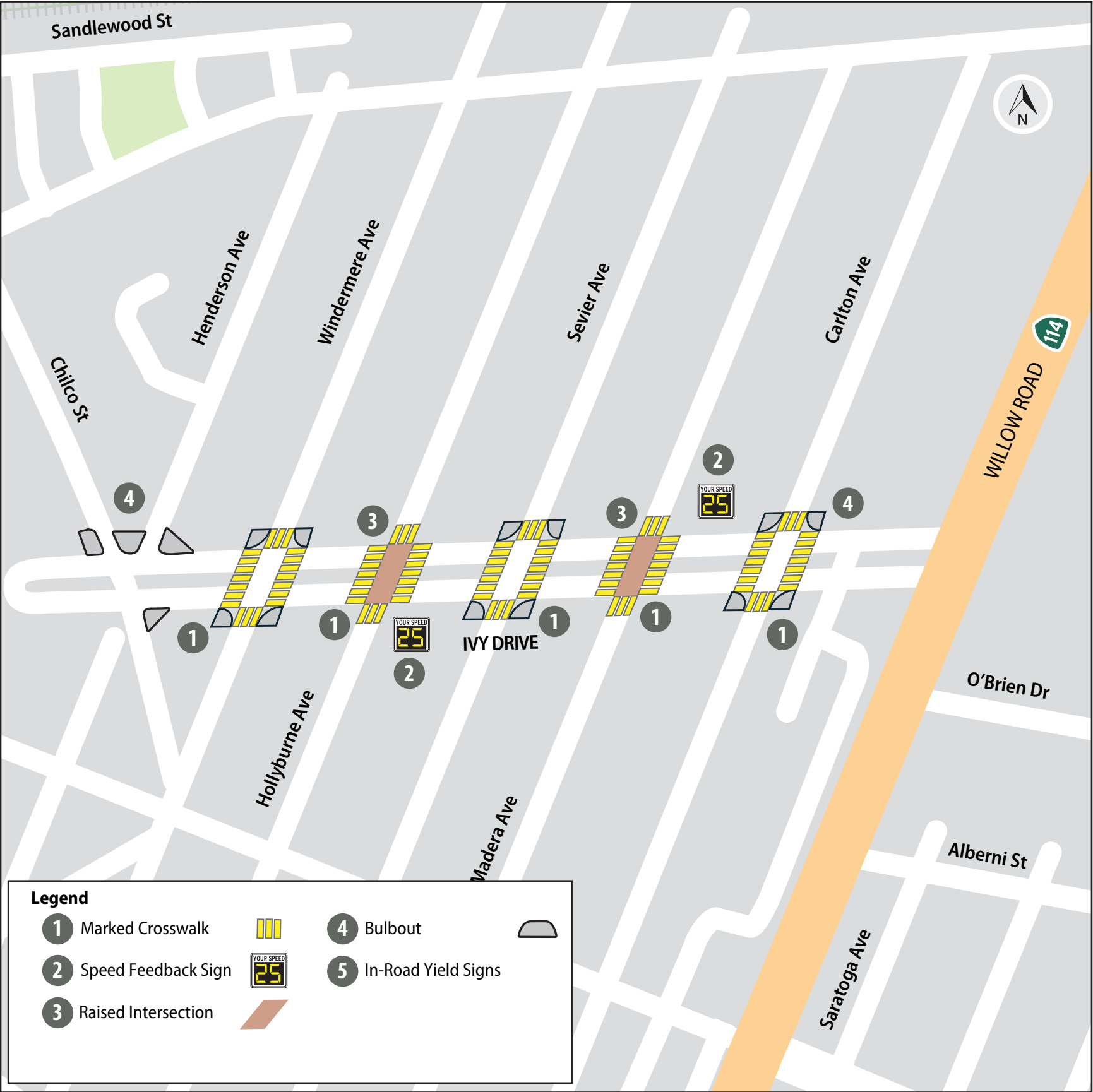
Loading Zone
prohibit on-street parking outside of
designated school pick-up/drop off hours

ADDITIONAL ENHANCEMENTS INCLUDE:

- Refresh existing crosswalk markings

Belle Haven Neighborhood Traffic Management Plan

Figure 14: Chilco Street Enhancements Option B



Marked Crosswalk



Speed Feedback Sign



Raised Intersection



Bulbout on Ivy Dr only



In-Road Yield Signs

ADDITIONAL ENHANCEMENTS INCLUDE:

- Refresh existing striping
- Install edge lines

Belle Haven Neighborhood Traffic Management Plan

Figure 15: Ivy Drive Enhancements Option A



Marked Crosswalk



Speed Feedback Sign



Raised Intersection



Bike Lane



In-Road Yield Signs

ADDITIONAL ENHANCEMENTS INCLUDE:

- Refresh existing striping

NOTES:

- Installing bike lanes on Ivy Dr would require prohibition of on-street parking
- Recent parking survey found 10 cars parked on Ivy Drive at 9:30 p.m, when night time is generally considered the peak period for parking demand on residential streets.
- If parking to remain, shoulder stripes could be an alternative.

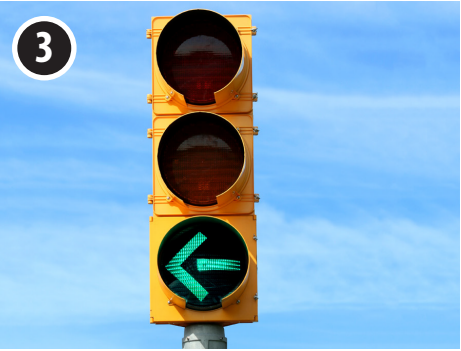
Belle Haven Neighborhood Traffic Management Plan
Figure 16: Ivy Drive Enhancements Option B



Marked Crosswalk



No Right Turn Blankout Sign
Concurrent with Northbound Left Turn



Left Turn Arrow to Emphasize
Split Signal Phase



Bulbout on Newbridge St only



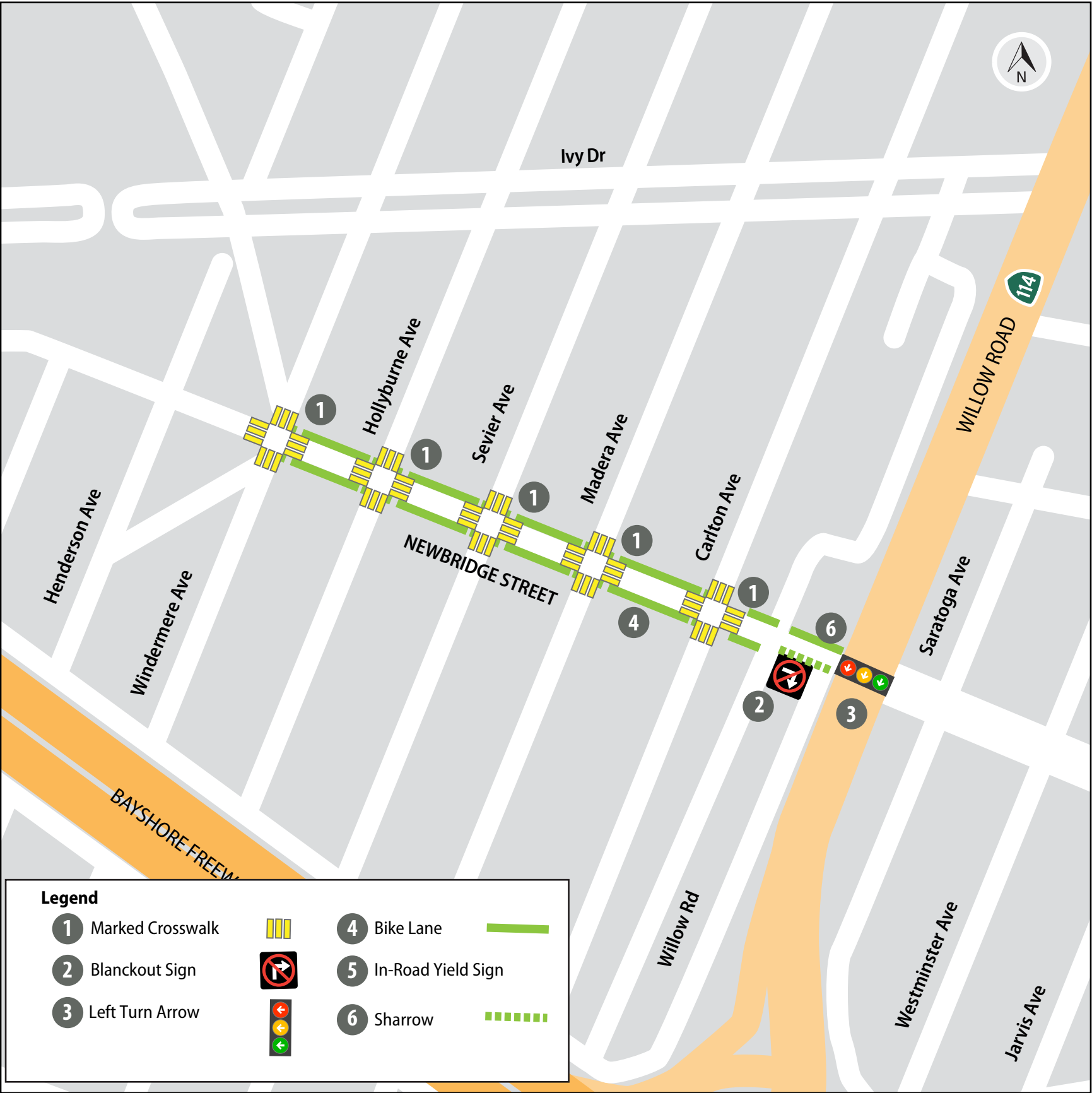
In-Road Yield Sign

ADDITIONAL ENHANCEMENTS INCLUDE:

- Refresh existing striping

Belle Haven Neighborhood Traffic Management Plan

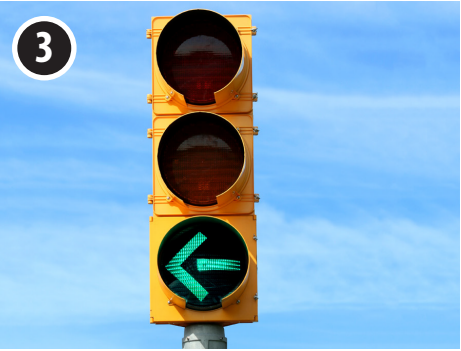
Figure 17: Newbridge Street Enhancements Option A



Marked Crosswalk



No Right Turn Blankout Sign
Concurrent with Northbound Left Turn



Left Turn Arrow to Emphasize
Split Signal Phase



Bike Lane



In-Road Yield Sign



Sharrows

ADDITIONAL ENHANCEMENTS INCLUDE:

- Refresh existing striping

Belle Haven Neighborhood Traffic Management Plan

Figure 18: Newbridge Street Enhancements Option B



Marked Crosswalk



Speed Hump



New Sidewalk



Bulbout



In-Road Yield Sign

NOTES:

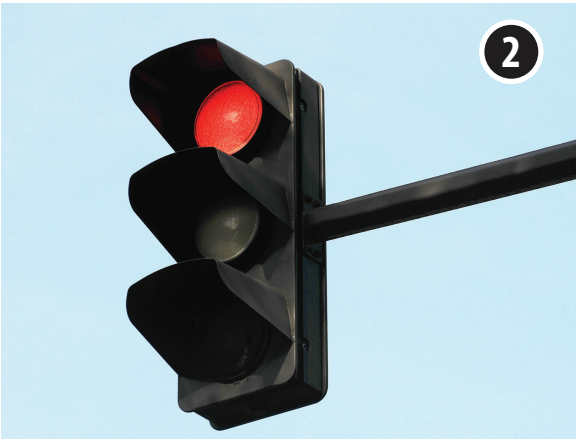
- Upgrade existing Terminal Avenue speed humps to latest design standards.
- Install one new speed hump per drive aisle in Beechwood School parking lot.

Belle Haven Neighborhood Traffic Management Plan

Figure 19: Terminal Avenue Enhancements Options



Marked Crosswalk



Split / Approach Signal Phase



Raised Crosswalk



Speed Hump

Belle Haven Neighborhood Traffic Management Plan

Figure 20: Additional Enhancements

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