

**CITY OF MANHATTAN BEACH
DEPARTMENT OF COMMUNITY DEVELOPMENT**

TO: Parking and Public Improvements Commission

FROM: Marisa Lundstedt, Director of Community Development
Erik Zandvliet, Traffic Engineer

DATE: April 23, 2015

SUBJECT: Consider Traffic Calming Measures at Valley Drive/Oak Avenue/35th Street

RECOMMENDATION:

Staff recommends that the Parking and Public Improvements Commission (Commission) approve a motion to recommend that the City Council approve the installation of a temporary single point intersection with center median island (Concept G) at the intersection of Valley Drive/Oak Avenue/35th Street on a trial basis.

BACKGROUND:

Recently, the City has received several requests for stop signs or other traffic measures at the intersection of Valley Drive and Oak Avenue and 35th Street (Exhibit 1). The residents expressed the following concerns:

- Difficulty in exiting the Ross Manhattan Terrace senior living apartments due to speeding cars on Valley Drive,
- Speeding issues on Valley Drive,
- Request for stop signs between Sepulveda Boulevard and 27th Street, and
- Lane width on Valley Drive is too narrow and motorists drive too fast and too close to parked cars.

On January 22, 2015, the Parking and Public Improvements Commission (Commission) held a public meeting to discuss the Traffic Engineer's evaluation supporting stop signs in all directions and temporary realignment of the intersection approaches. The Commission heard from seven speakers from the surrounding neighborhood in favor of the stop signs and/or other speed reduction measures. Speakers shared concerns regarding speeding traffic, narrow lanes, and sideswipe collisions with parked cars. The Commission passed a motion 4-1 recommending the installation of stop signs in all directions at the intersection of Valley Drive/Oak Avenue/35th Street, including temporary realignment of the south and west approaches on a trial basis.

On March 4, 2015, the City Council considered the Commission's recommendation, heard public testimony, and directed Staff to examine other options at this intersection, especially visibility solutions for south bound Oak Street traffic, and ingress and egress solutions for the Ross Manhattan Terrace senior apartments. The City Council returned the matter to the Commission for further evaluation.

DISCUSSION:

The intersection of Valley Drive and Oak Avenue and 35th Street is located in a residential area west of Sepulveda Boulevard (Exhibit 2). Oak Avenue and 35th Street are 30 to 34 feet wide two-lane local streets with a 25mph prima facie speed limit. Valley Drive is a 32 feet wide two-lane residential collector street with a 30 mph posted speed limit. There are stop signs on the north leg of Oak Avenue and the west leg of 35th Street at Valley Drive. There are stop signs on Valley Drive at Sepulveda Boulevard to the east and 27th Street to the west. All streets are improved with curbs, and some sidewalks. Curb parking is allowed on both sides of Oak Avenue and 35th Street, and on the west side of Valley Drive. Curb parking demand is generally light during the day and moderate to heavy at night. Valley Drive has a slight downslope in the southbound direction between Sepulveda Boulevard and 27th Street. There are cross-gutters on the north leg of Oak Avenue and the west leg of 35th Street at the intersection. (Exhibit 3) Pedestrian visibility is good in all directions. The Belamar Hotel is located on the northeast corner, and Ross Manhattan Terrace senior apartments is located along the southeast side of Valley Drive.

Field Observations

Field observations were made on typical days during peak and non-peak periods. Field observations confirm higher traffic volumes on Valley Drive and other physical characteristics at the intersection as noted above. Right-of-way is assigned by stop signs on Oak Avenue and 35th Street, but the configuration is unusual because the opposing approaches are not stopped. This is due to the angled alignment and high traffic volume of Valley Drive, which is considered the through street at the intersection. Sight distance is fair from of Oak Street and 35th Street, with the exception that the sharp intersecting angle of Valley Drive restricts sight distance for drivers stopped on both streets. Also, drivers exiting a nearby driveway for the senior living complex may have difficulty seeing vehicles approaching from Sepulveda Boulevard. Higher than expected speeds were observed on Valley Drive through the intersection. The Traffic Engineer observed that most motorists on Valley Drive have a low awareness of pedestrians or stopped cars at the intersection.

A vehicle volume count was conducted on October 13, 2014, on a typical school day. A summary of the peak hour and daily volumes are provided below:

VEHICLES DIRECTION	AM PEAK HOUR	PM PEAK HOUR	DAILY
Eastbound (35 th Street)	71	82	213
Southbound (Oak Avenue)	<u>56</u>	<u>60</u>	<u>793</u>
Subtotal	127	142	1,006
Westbound (Valley Drive)	168	106	2,021
Northbound (Valley Drive)	<u>157</u>	<u>140</u>	<u>2,113</u>
Subtotal	325	246	4,134
Intersection Total	452	388	5,140

Valley Drive between Sepulveda Boulevard and 27th Street is currently posted with a 30 mph speed limit. The latest speed survey was conducted on October 13, 2014. A summary is provided below:

Daily Traffic Volume	5,404 vehicles per day
50 th Percentile Speed	26 miles per hour
85 th Percentile Speed	37 miles per hour
10-MPH Pace Speed*	31-40 miles per hour
(*10 mph increment with largest percentage of drivers)	

The prevailing speed on Valley Drive is higher than expected for a street with fronting residential homes and for its classification as a residential collector street. This speed can be primarily attributed to the high entering speed of drivers entering Valley Drive from Sepulveda Boulevard, as well as the uninterrupted distance between stop signs on a street segment with homes on one side only.

The traffic collision history between January 1, 2008 and December 31, 2012 was analyzed for both intersections. According to City records, there have been no collisions reported near the intersection during this five (5) year period.

Potential Traffic Measures

The City Traffic Engineer has analyzed several traffic measures that could address limited intersection sight distance, speeding on Valley Drive, or both. An evaluation of these measures is summarized below, and shown in Exhibit E:

Multi-way Stop Signs (Concept A)

The State of California has established guidelines for the installation of stop signs. These criteria have been widely accepted and are used by the City of Manhattan Beach. Multi-way or all-way stop controls are generally recommended when one or more of the State criteria are satisfied and indicate the existing traffic control devices are not sufficient to assign proper right-of-way or cannot be remedied through other means.

A stop sign warrant checklist was completed that indicates that multi-way stop signs are warranted at this intersection. This intersection has sufficient right-of-way controls with two-way stop signs, but does not meet minimum minor street volumes and does not have a recurring collision history. However, restricted sight distance of approaching vehicles on both Oak Avenue and 35th Street and a higher than expected approach speed on Valley Drive are special conditions that justify stop signs in all directions. There is a concern that a stop sign on the westbound approach of Valley Drive would cause significant queuing, which could impede traffic at Sepulveda Boulevard. Additional stop signs may also increase cut through traffic on adjacent streets.

Valley Drive Realignment and Stop Signs (Concept B)

This measure would realign the approaches of Valley Drive into a more conventional intersection geometry. The south leg of Valley Drive can be curved to meet the north leg of Oak Avenue, and the east leg curved to meet the west leg of 35th Street. However, the normal right-of-way

rules for two-way stop signs may become confusing, so this measure would not be recommended without changing the stop controls to a traditional layout with 3 or 4-Way stop signs. Realigning the intersection would improve sight distance by removing sharply angled approaches. Overall speeds both approaching and departing the intersection would be expected to drop significantly because the physical roadway characteristics would prevent unimpeded travel. Conversely, cut through traffic on 35th Street could increase if westbound traffic is not required to stop. This measure could be implemented on a trial basis with striping paint and delineators.

Center Median Island (Concept C)

A center median island could be constructed on Valley Drive to channelize the traffic through the intersection. The island would have a traffic calming effect on both approaches of Valley Drive. It would not directly improve sight distance for Oak Avenue, 35th Street or the Ross Manhattan Terrace driveways, but lower speeds resulting from traffic calming would make turning movements generally safer overall. This measure could be implemented on a trial basis with striping paint and delineators.

Mini-Traffic Circle (Concept D)

A mini-traffic circle could be constructed in the center of the intersection, which would require all traffic to yield before entering the intersection and proceed in a counterclockwise direction. This measure would have a traffic calming effect and improve sight distance on Oak Avenue and 35th Street. However, northbound drivers on Valley Drive may not be inclined to slow down, since this direction would have an unimpeded alignment through the traffic circle. Also, it would not address sight distance issues for the Ross Manhattan Terrace driveways or improve pedestrian mobility through the intersection. It might take drivers some time to acclimate to the new traffic pattern of a mini traffic circle.

Oak Avenue and 35th Street Splitter Island (Concept E)

The Oak Avenue and 35th Street approaches to the intersection could be realigned to meet perpendicular to Valley Drive, effectively moving the limit lines forward to improve sight distance for stopped drivers. A splitter island could be constructed between the two streets, with crosswalks joining the southwest and northeast corners and a pedestrian refuge on the island. The crosswalks would connect the existing sidewalks along the north side of Valley Drive, and channelize traffic more effectively. The island would also discourage cut-through traffic on 35th Street in the westbound direction. It would not directly improve sight distance for the Ross Manhattan Terrace driveways, but lower speeds resulting from traffic calming would make entering and exiting the driveways safer.

This measure could be combined with Concept C – Center Median Island, to additionally calm traffic through the intersection. This measure could be implemented on a trial basis with striping paint and delineators.

Valley Drive Narrowing (Concept F)

The southeasterly curb line of Valley Drive could be moved northerly to reduce the overall street width. This would provide greater sight distance for drivers exiting the Ross Manhattan Terrace driveway by widening the parkway area. The wider parkway would also provide sufficient width

for future sidewalks along the south side of Valley Drive. Road narrowing typically reduces prevailing speeds because drivers feel more constrained by reduced lane widths. While this measure would not directly improve sight distance for Oak Avenue or 35th Street, lower speeds due to traffic calming would make intersection movements generally safer overall. This measure could be implemented on a trial basis with striping paint and delineators.

Single Point Intersection with Center Median (Concept G)

The Oak Avenue and 35th Street approaches to the intersection could be consolidated into a single point intersection that joins Valley Drive, effectively eliminating one approach altogether. This measure would be accomplished by extending the southwest corner towards the northeast in order to reduce the size of the intersection opening. 35th Street and Oak Avenue would curve into each other, and the intersection with Valley Drive would be reduced to a three-way approach with one stop sign. By moving the limit line forward, it would improve sight distance for stopped drivers. One crosswalk could be striped to connect the existing sidewalks along the north side of Valley Drive along with a sidewalk through the curb extension. A left turn pocket could be striped to provide a refuge for traffic on Valley Drive making a left turn through the intersection.

The combination of the curb extension and a center median on Valley Drive would calm traffic by limiting the unobstructed view of Valley Drive and reducing the lane widths through the intersection. The curb extension would also serve to discourage cut through traffic on both Oak Avenue and 35th Street by shielding it from view and eliminating unimpeded through movements to/from Valley Drive.

This measure would not directly improve sight distance for the Ross Manhattan Terrace driveways, but lower speeds resulting from traffic calming would make entering and exiting the driveways safer. This measure could be implemented on a trial basis with striping paint and delineators.

Electronic Speed Awareness Sign

A solar-powered electronic speed awareness sign could be installed on Valley Drive to inform drivers of their actual speed and warn them to slow down if they exceed the posted speed limit. This device has been effective in other locations throughout the City where excessive speed is prevalent. The most appropriate location would be on Valley Drive between Elm Avenue and Pine Avenue in the southbound direction. This measure could be implemented separately or in combination with other measures.

The City Traffic Engineer also considered other intersection measures, such as a three-way stop (add a northbound Valley Drive stop sign), intersection chokers and turn restrictions, but these did not fully resolve sight distance restrictions and speeding issues. The City Traffic Engineer believes that a single point intersection with center median (Concept G) should be implemented at the intersection, because this measure would address speeding and sight visibility issues, as well as offer neighborhood protection and sidewalk connections along Valley Drive. It is recommended that any roadway realignment be tested on a trial basis with striping and delineators. A follow-up study would be conducted and presented to the Commission after six months to evaluate its effectiveness, before considering permanent curbs and sidewalks. The evaluation would include before-after traffic counts, speed study, collision data and public

feedback to determine if the measures reduced speeds, improved visibility and discouraged neighborhood intrusion.

An electronic speed awareness sign could also be installed along Valley Drive to further enhance traffic calming if intersection measures fail to slow down traffic. Lastly, hedges and landscaping on the Belamar Hotel and Ross Manhattan Terrace frontages can be trimmed back to improve corner sight distance.

It should be noted that staff has issued a work order to shift the centerline of Valley Drive to provide a wider southbound lane on Valley Drive, which will reduce the potential for collisions with parked vehicles.

Public Notice

Residents and property owners within 500 feet of the intersection were notified by mail of the possible traffic calming measures and were invited to give input to the Commission.

CONCLUSION:

Based on anticipated traffic calming effects and improvement in sight distance, it is recommended that the Commission approve a motion to recommend that the City Council approve the installation of a temporary single point intersection with center median island (Concept G) at the intersection of Valley Drive/Oak Avenue/35th Street on a trial basis of at least 6 months with a follow-up study.

- Exhibits:
1. Request for Stop Signs from Ms. Aldred and Mr. Constant
 2. Aerial Photo
 3. Site Photos
 4. Stop Sign Warrant Checklist
 5. Intersection Concept Sketches

EHZ

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REC'D 7/2/14

46693

Exhibit 1

Megan Aldred
Ross Manhattan Terrace
3400 N. Valley Drive #10
Manhattan Beach
California 90266

7/9/2014

To: Manhattan Police

My husband and I rent an apartment at the Ross Manhattan senior living complex right opposite the Belamar Hotel on N. Valley Drive and I have a request for your consideration.

My request concerns the really dangerous task of pulling out of our parking lot to turn left on N. Valley Drive. No matter how carefully you pull out there is a blind spot that cars entering from P.C.H. and rounding the bend (often at a speed greater than the limit) and that the pulling out car cannot see until they are in the middle of the street. If you would come and drive into our car park, turn round and drive out turning left, you would immediately see the problem. I am quite certain there must have been problems there and we have experienced near collisions ourselves.

I have been thinking about it and one solution would be to put a ONE WAY ONLY STOP sign right on the corner of the Belamar Hotel and N. Valley which would cause the incoming cars to pause and clearly see if a car is pulling out in front of them.

We are really fond of our Senior community here and hate the thought of accidents that could be prevented.

Thank you for your consideration of this request

Very respectfully yours,

Megan Aldred.

(214-641-9511.)

#46283

Exhibit 1

Nhung Madrid

From: Daniel.R.Constant@wellsfargo.com
Sent: Sunday, July 13, 2014 3:57 PM
To: Nhung Madrid
Cc: Erik Zandvliet
Subject: RE: North Valley Drive Traffic Safety Concerns

To: Nhung Madrid, City of Manhattan Beach Traffic Engineering Division, **Community Development Senior Management Analyst (via email)**

From: Dan Constant, Neighborhood Watch Block Captain, 2811 N. Valley Dr.

Background

Residents living on North Valley Drive request that the City of Manhattan Beach evaluate traffic safety issues. Traffic along Valley is an issue we all knew about when choosing to live here and, to an extent, we need to live with. However, residents include children and seniors, traffic issues have gotten worse, and we believe there are steps the City can take to minimize/prevent future incidents.

Attached below are specific issues and comments I received as Neighborhood Watch Block Captain:

Issue: Cars coming off Sepulveda onto Valley Drive are transitioning from a 45 mph Highway to a residential neighborhood, with little to impede speeding (and no stop signs until 27th Street (which is often "run through without stopping" due to poor visibility and speeding cars). This is a residential neighborhood without any commercial uses. The speed limit could be lower, consistent with other residential streets in Manhattan Beach, and maybe an additional Stop Sign between Sepulveda and 27th Street would be appropriate.

Issue: It is not clear if there is sufficient street width to accommodate a parking lane, 2-traffic lanes, and a dedicated bike lane. This, in itself, is a recipe for disaster when those different uses converge. Cars often cross the lane divider and/or veer into the bike lane.

Issue: Many homes along North Valley Dr. are older with limited garage/driveway parking. Residents need to utilize street parking, which has become hazardous entering and exiting cars due to cars speeding by.

Issue: Rear-view mirrors getting broken off by passing cars are common (and some instances of parked cars being side-swiped). These are typically "hit and run" and involve costly repairs.

We respectfully ask that the City of Manhattan Beach consider these traffic/safety issues and take actions that will mitigate these issues. Please do not hesitate to contact me if I can provide any additional information, and please consider comments I received from neighbors:

From Michelle Moeller <michellemoeller@me.com> :

Last night around midnight I heard a "crash" or what sounded like something being "dropped" around midnight. I called police - in light of the events the night before. Well we just discovered what it was; someone took out Kurt's side mirror. Another neighbor Leslie, at 3111 says she's had 5 taken out. She wants to start a petition to slow down the speed on valley with a stop sign.

From Darius Novickis <DNovickis@aol.com> :

I am absolutely confident that a contributing factor to the "mirror issue" is that the city chose to move the center dividing line on Valley Dr. closer to the west -- this was done following the repaving of Valley in 2010/2011 and the addition of the "bike lane" on the east side (adjacent to the Greenbelt). I rarely leave my car on the street anymore because I also have had my driver's side mirror damaged twice while on the street. In all the previous years (1994-2011), not once was my mirror damaged. Driving on Valley in the early morning over the

past couple years, I have observed other mirrors dangling from the side of the cars, most likely after being hit over night. All anyone has to do is stand on 27th and look north on Valley to observe most vehicles (to include MBPD) driving on the double yellow dividing line or actually over it to avoid clipping the cars parked along the curb.

Bottom line, the striping of the street was done without proper review in my opinion, and while that does not excuse the irresponsibility of people damaging other vehicles, it is undoubtedly a contributing factor.

From Patricia Izzo <noble52234@yahoo.com> :

The bike lane has made living on Valley Dr. a danger. Getting in and out of the car, I defy death every day. Also, having to park so close or on the curb is annoying. I have noticed the use of the bike lane is minimal. I agree that we should have been notified of the change.

From Chris Bouman <chris@truckee1.com> :

We actually had a hit and run when I was loading Jack into the child seat. Someone drove by and their mirror hit my rear car door that was open. The people stopped but when they saw I was carrying a kid and couldn't run they drove off. I called the police and filed a report.

From Afsaneh <afsanehmatin@yahoo.com> :

I am totally in favor of taking it to the city authorities and demanding some actions. It has become too frequent. I had my side mirror knocked out last summer on another side street but what happened to Chris's car with Jack inside is totally unacceptable. Something needs to be done!

From Michael Schiraldi <user138322@aol.com> :

I spoke to Sergeant Vargas many times and he doesn't seem too think our corner is a problem (27th & Valley). Something bad is going to happen before they take notice. Encourage everyone to call Sergeant Vargas and talk to him. He is in Charge of Traffic.

Sincerely, Dan Constant, 2811 N. Valley Dr., 213-272-5830

From: Nhung Madrid [mailto:nmadrid@citymb.info]
Sent: Thursday, July 10, 2014 2:22 PM
To: Constant, Daniel R.
Subject: RE: North Valley Drive Traffic Safety Concerns

Hello Mr. Constant,

Thank you for contacting the City with your traffic concerns. Requests of this nature are reviewed by the City Traffic Engineer, Mr. Erik Zandvliet. Currently, Mr. Zandvliet is a contract employee, and is only in the office one day per week so his office hours are very limited. I manage the day-to-day operations of the Traffic Engineering Division and would be your main point of contact for the request. You can send your request directly to me and I can input the request for the Engineer's review and evaluation. Due to the limited office hours of the Engineer, requests typically take 6-8 weeks to be fully reviewed so we appreciate your patience during this process.

For future reference, Mr. Zandvliet's email is ezandvliet@citymb.info.

Please let me know if you have any other questions.

Best,
Nhung

Nhung Madrid
Community Development Senior Management Analyst
P: (310) 802-5540



From: Daniel.R.Constant@wellsfargo.com [mailto:Daniel.R.Constant@wellsfargo.com]
Sent: Thursday, July 10, 2014 1:18 PM
To: Nhung Madrid
Subject: North Valley Drive Traffic Safety Concerns

Hello Ms. Madrid:

I am the Neighborhood Watch Block Captain for the 2800 Block of Valley Dr. Our neighborhood has experienced growing traffic concerns along Valley (especially in the summer months) and I am in the process of putting together a summary of our concerns. Specifically, we are concerned with "speeders" coming off Sepulveda, creating safety hazards in this residential neighborhood, as well as ongoing damage to cars parked along Valley (rear-view mirrors being hit and damaged), and hazards to people getting into and out of their cars. We recognize that we have to live with some of this being on Valley, but respectfully will be asking the City of Manhattan Beach to look into this, as it may require an examination of the adequacy of current speed limits and placement of stop signs, as well as looking into the roadway dimensions, striping, bike lane, and possible additions like signage and/or speed bumps.

Before I write up a summary of our concerns, can you please advise who I should send this to, and if possible their email addresses at the City. Thanks in advance for your help.

Dan Constant, 2811 N. Valley

office: (213) 614-4845 cell: (213) 272-5830 fax: (866) 482-1085

This message may contain confidential and/or privileged information. If you are not the addressee or authorized to receive this for the addressee, you must not use, copy, disclose, or take any action based on this message or any information herein. If you have received this message in error, please advise the sender immediately by reply e-mail and delete this message. Thank you for your cooperation.

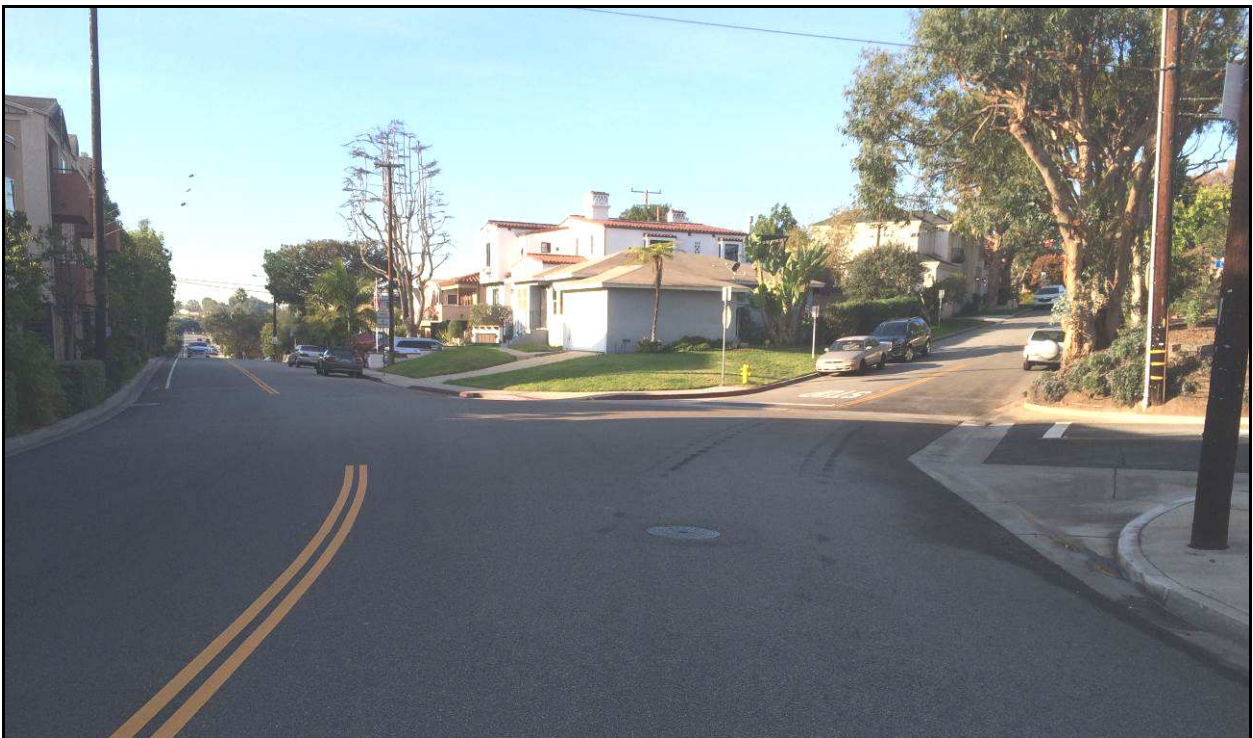
EXHIBIT 2
AERIAL PHOTO
Valley Drive/Oak Avenue/35th Street



**EXHIBIT 3
SITE PHOTOS**



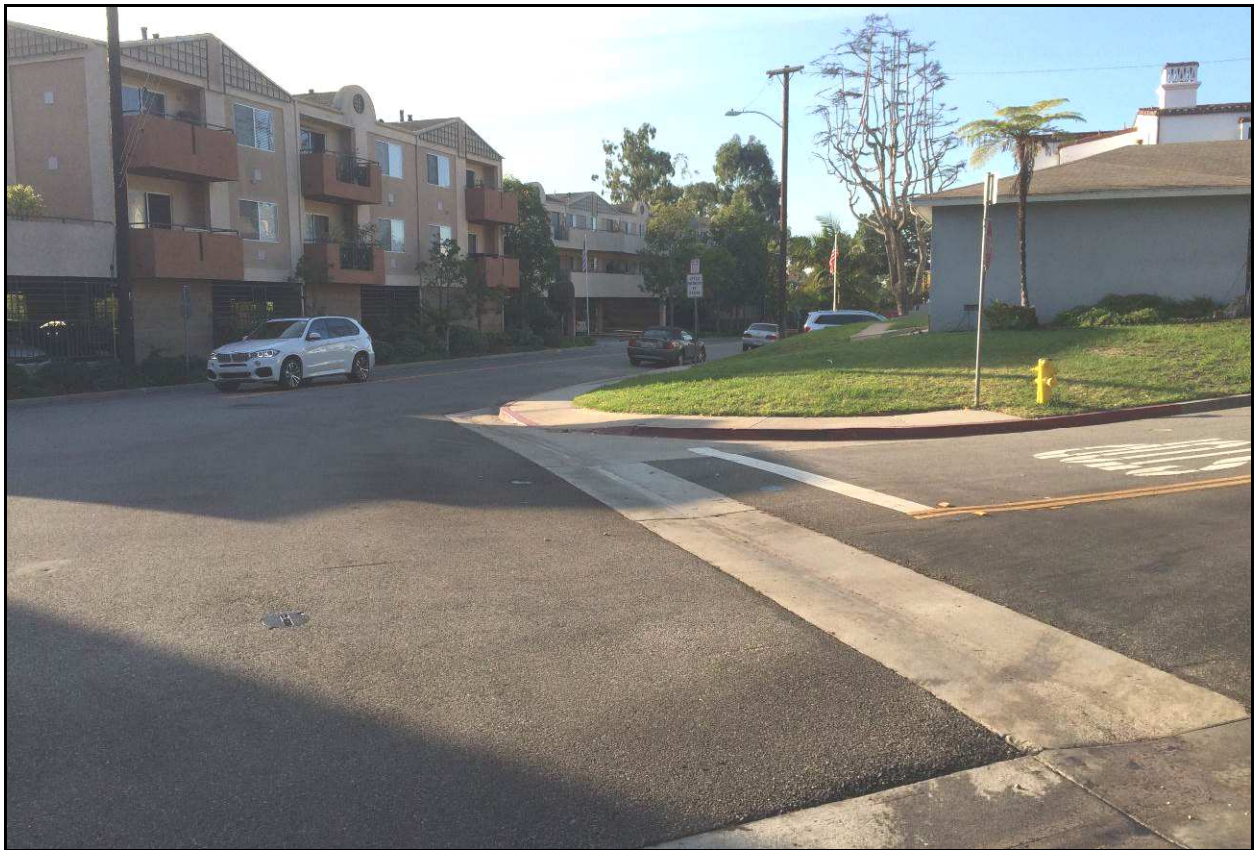
Valley Drive South of 35th Street Looking Northeast



Valley Drive West of Oak Avenue Looking Southwest



Oak Avenue North of Valley Drive Looking East



Oak Avenue North of 35th Street Looking West



35th Street West of Oak Avenue Street Looking East



EXHIBIT 4

STOP SIGN WARRANT CHECKLIST

MAJOR STREET: Valley Drive MINOR STREET: Oak Ave/35th Street

REQUESTED BY: Citizens DATE: 1/14/2015

REVIEWED BY: Erik Zandvliet

Warranted?

SINGLE STREET STOP SIGN WARRANTS

- On a less important road where the normal right-of-way rules would not be expected to provide reasonable compliance with the law.
- On a street entering a legally established through highway or street.
- At an unsignalized intersection in a signalized area.
- At other intersections where high speeds, restricted view, or crash record indicates a need for control by a stop sign.

MULTI-WAY STOP SIGN WARRANTS

- Where traffic signals are warranted, and stop signs are used as an interim measure to control traffic while the signal is installed.
- Where a crash problem exists, as indicated by five or more reported accidents within a 12 month period of a type correctable by a multi-way stop sign.
- Where the total vehicular volume entering from the major street approaches average at least 300 vehicles per hour for any 8 hours, and the combined vehicular, bicycle and pedestrian volume from the minor street approaches average at least 200 units per hour for the same 8 hours, with an average delay to the minor street traffic is at least 30 seconds per vehicle during the highest hour, and if the 85th percentile approach speed of the major street traffic exceeds 40 MPH, the minimum vehicular volume warrant is 70 percent of the above requirements.
- Where there four or more reported accidents within a 12 month period of a type correctable by a multi-way stop sign, and the average major and minor street volumes are at least 80% of the minimum values.
- Other locations where multi-way stop signs are justified based on an engineering study.

MULTI-WAY STOP SIGN WORKSHEET

MAJOR STREET: Valley Drive 85TH SPEED - < 40 MPH

MINOR STREET: Oak Ave/35thStreet DATE: 1/14/2015

TRAFFIC VOLUMES **WARRANTED** **YES** **NO**

If the 85th percentile speed of the major street exceeds 40 MPH, use 70% volume.

Street	Min Volume	70%	80%	Ave.	Hour / Volume								
					7am	8am	9am	10am	2pm	3pm	4pm	5pm	
Major	300	210	240	255	269	358	270	212	213	237	245	235	
Minor	200	140	160	68	82	75	66	58	70	70	71	52	

And, does the minor street have an average delay of at least 30 seconds in the peak hour?

Peak Average Delay	< 10 sec.
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COLLISION RECORD **WARRANTED** **YES** **NO**

Are there five or more reported collisions within a 12 month period of a type correctable by a multi-way stop sign?

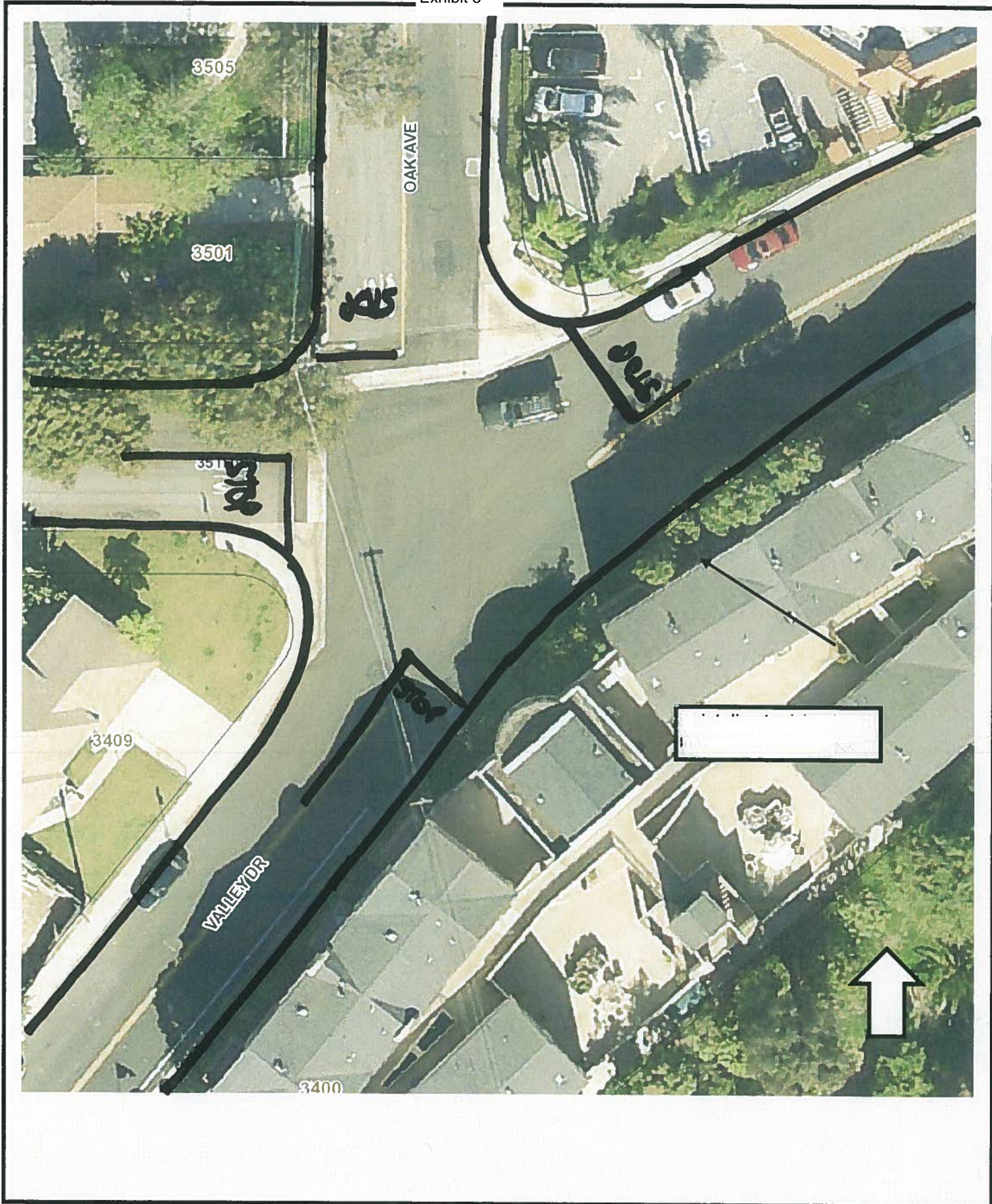
DATE	TIME	DIRECTION	TYPE	CAUSE
2012	-	None	-	-
2011	-	None	-	-
2010	-	None	-	-
2009	-	None	-	-
2008	-	None	-	-
2007	-	None	-	-

80% COMBINATION **WARRANTED** **YES** **NO**

Are there four or more reported accidents within a 12 month period of a type correctable by a multi-way stop sign, and

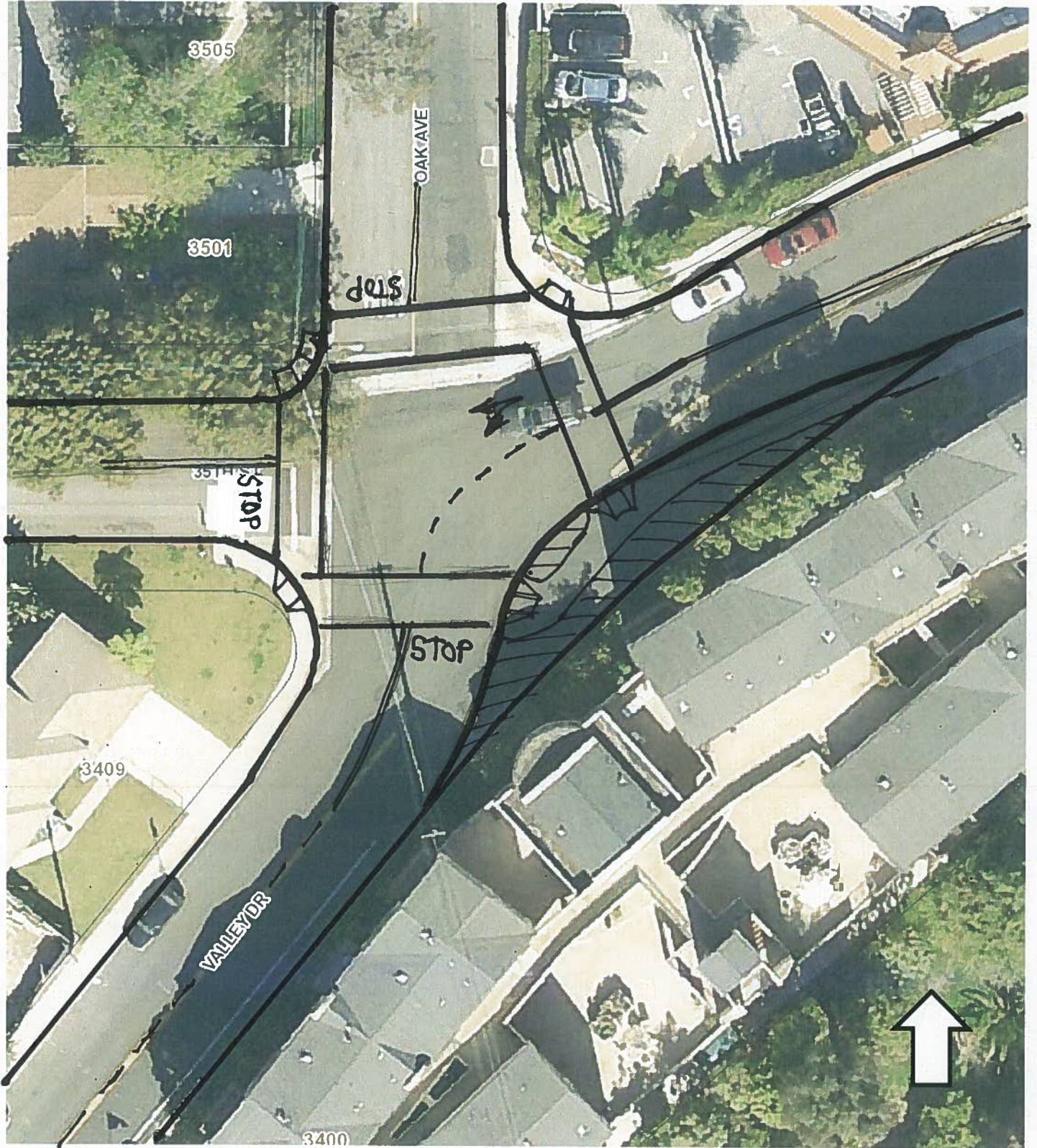
Average major and minor street volumes are at least 80% of the minimum values?

OTHER MULTI-WAY STOP CONDITIONS	WARRANTED	YES	NO
A. Need to control left turn conflicts	YES	NO	NO
B. Need to control vehicle/pedestrian conflicts at high volume locations	YES	NO	NO
C. Visibility obstruction after stopping on minor street approach	YES	NO	NO
D. Two similar neighborhood collector streets that would improve operation	YES	NO	NO



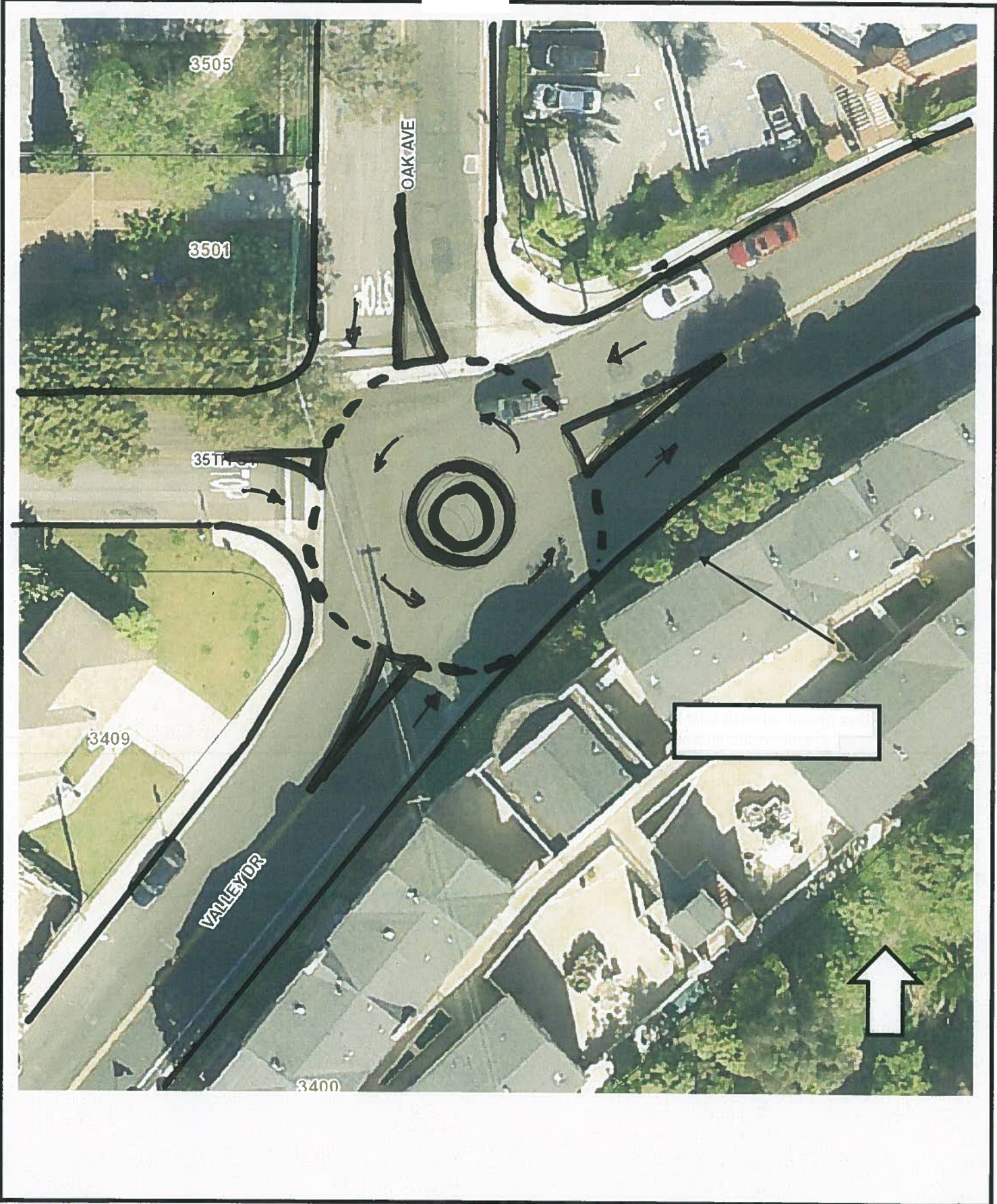
City of Manhattan Beach
Community Development
Traffic Engineering Division

INTERSECTION CONCEPT A
ALL-WAY STOP SIGNS
Valley Drive / Oak Avenue / 35th Street



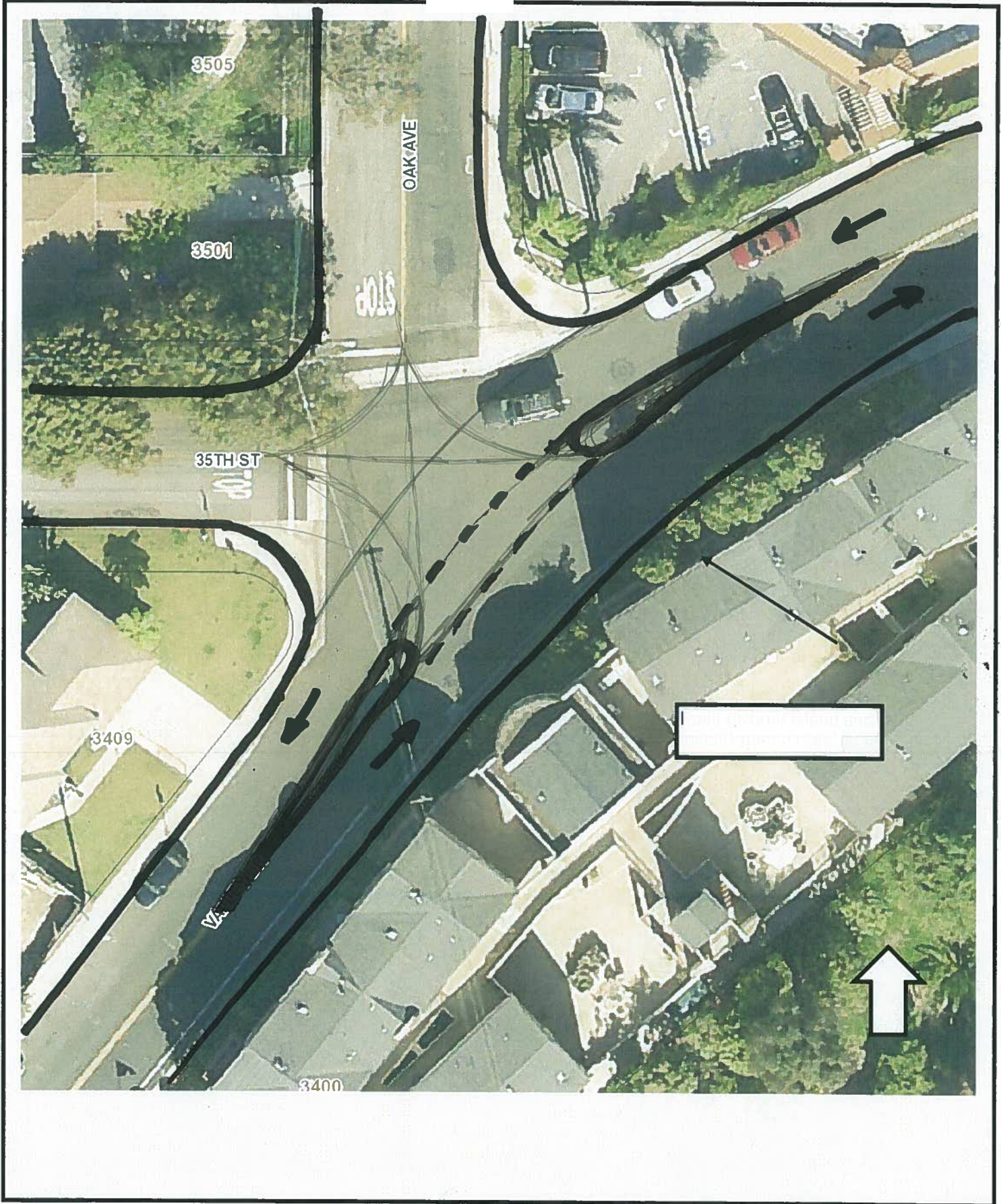
City of Manhattan Beach
Community Development
Traffic Engineering Division

**INTERSECTION CONCEPT B
STOP SIGNS WITH REALIGNMENT
Valley Drive / Oak Avenue / 35th Street**



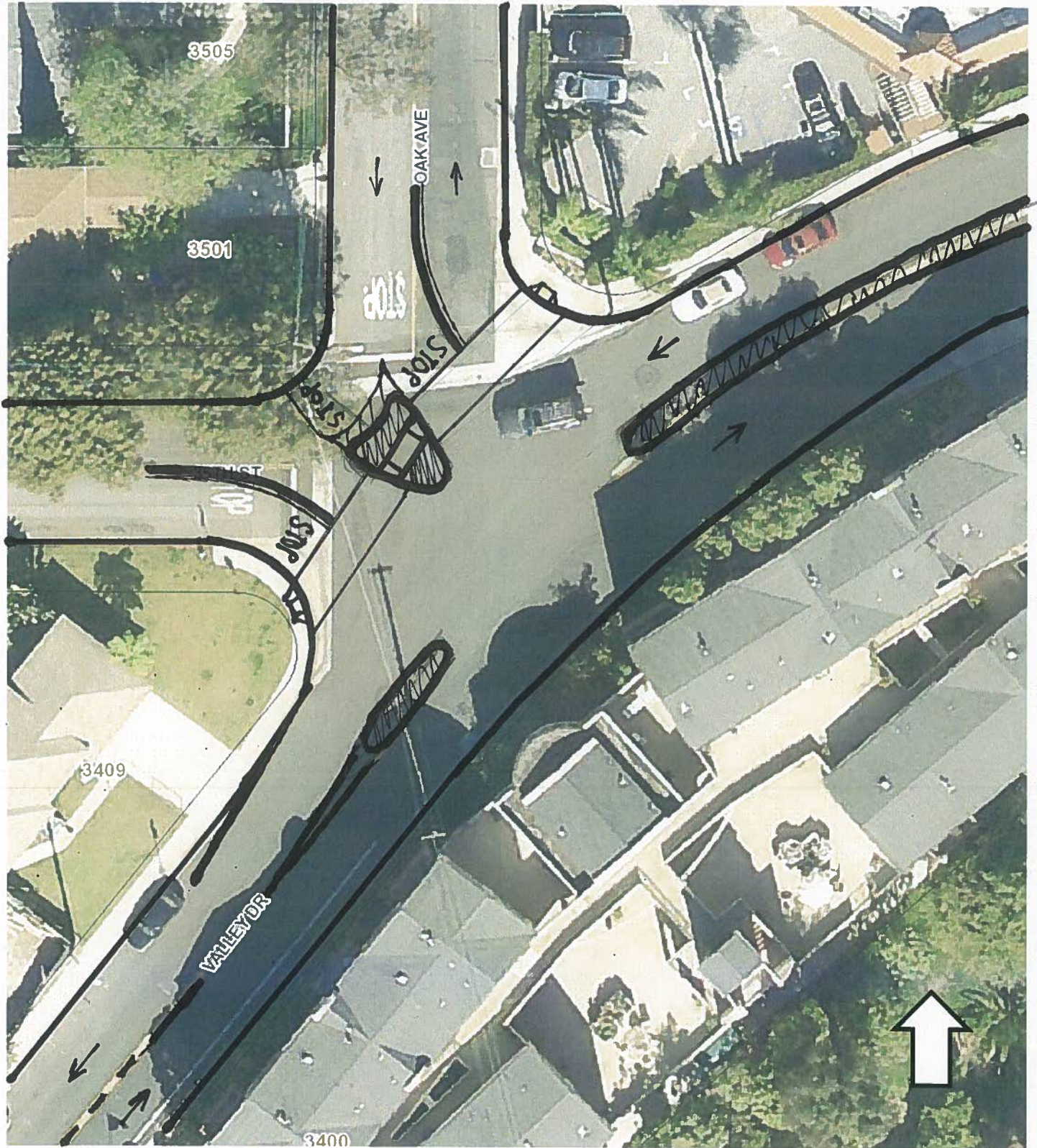
City of Manhattan Beach
Community Development
Traffic Engineering Division

INTERSECTION CONCEPT C
MINI TRAFFIC CIRCLE
Valley Drive / Oak Avenue / 35th Street



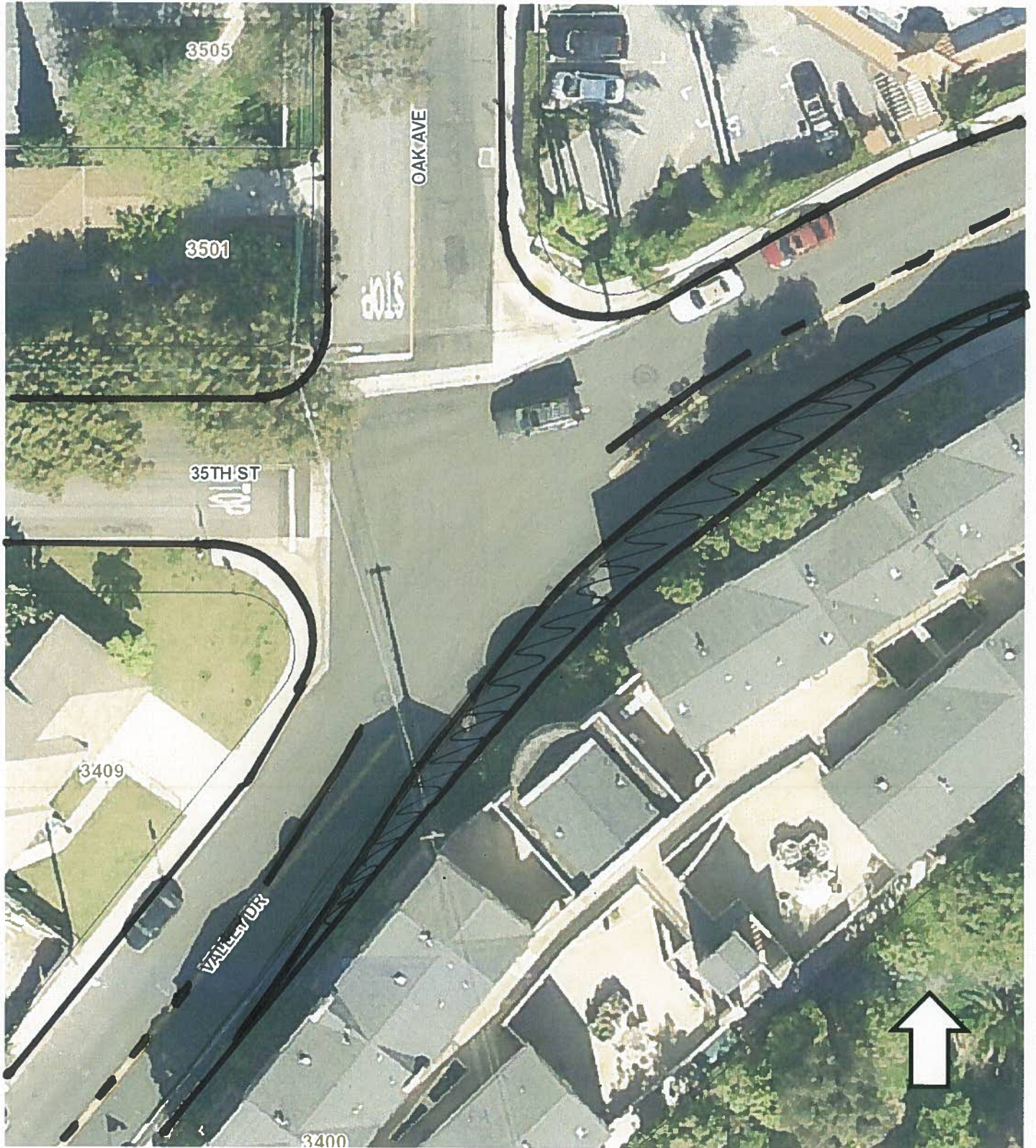
City of Manhattan Beach
Community Development
Traffic Engineering Division

INTERSECTION CONCEPT D
CENTER MEDIAN ISLANDS
Valley Drive / Oak Avenue / 35th Street



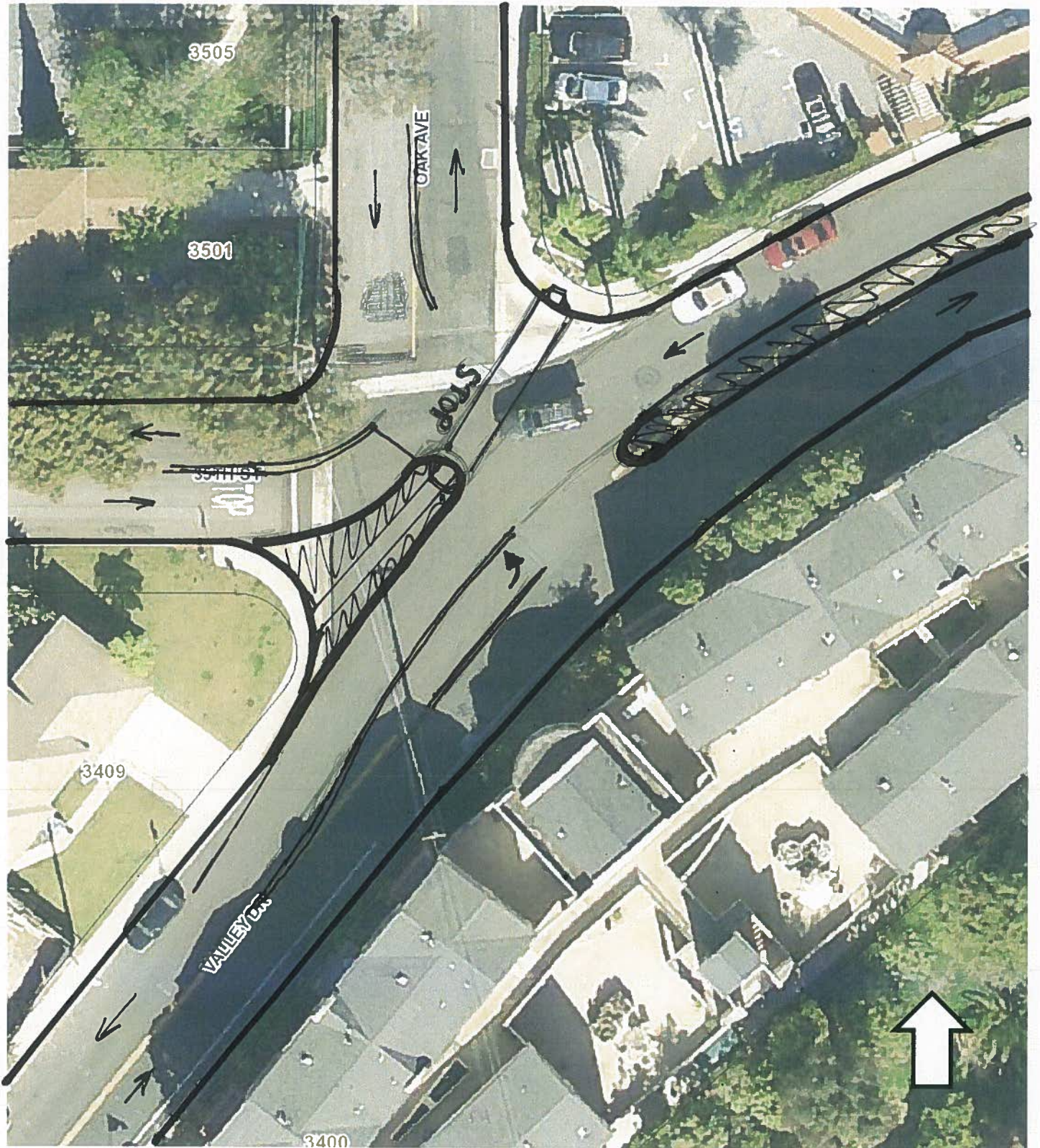
City of Manhattan Beach
Community Development
Traffic Engineering Division

**INTERSECTION CONCEPT E
SPLITTER ISLAND (WITH CENTER ISLANDS)
Valley Drive / Oak Avenue / 35th Street**



City of Manhattan Beach
Community Development
Traffic Engineering Division

INTERSECTION CONCEPT F
VALLEY DRIVE NARROWING
Valley Drive / Oak Avenue / 35th Street



City of Manhattan Beach
Community Development
Traffic Engineering Division

INTERSECTION CONCEPT G
SINGLE POINT INTERSECTION WITH CENTER MEDIAN
Valley Drive / Oak Avenue / 35th Street