



CITY OF COMMERCE AGENDA REPORT

Item No. **4**

TO: Traffic Commission

SUBJECT: Traffic Review Along Triggs Street Between Marianna Avenue and East of McDonnell Avenue

MEETING DATE: January 8, 2020

RECOMMENDATIONS:

General Recommendation 1: Modify Existing Commerce Speed Hump Policy

1. Speed humps could be installed on designated Residential, Local or Collector Streets.
2. Speed humps could be installed on streets with Average Daily Traffic of 1,000 to 4,000 vehicles per day and with additional assessment of potential impacts on streets with 4,000 to 10,000 average daily vehicle trips.
3. Speed humps could be installed on streets with posted speed limits no greater than thirty (30) miles per hour.

According to the City of Commerce Speed Hump Policy, speed hump installation would require a petition or agreement of residents who live along the affected street segment or within 250 feet of proposed speed hump (67% of residents in favor) and then submitted to the Traffic Commission and Council for approval.

Recommendation 2: Triggs Street between Marianna Avenue and Eastern Avenue

After a thorough review of existing field conditions, traffic volume, accident data and roadside conditions it was determined that the following traffic calming measures could be implemented to improve safety and reduce speeding along Triggs Street between Marianna Avenue and Eastern Avenue. Since this segment of Triggs Street has lower average daily traffic and is residential, the City could consider the placement of 2 sets of speed cushions. This would require agreement with residents as well as transit, police and fire. The cushions could be placed such that large fire trucks wheelbase would allow them to clear the speed bumps. In addition, 25 mph signs along with 25 pavement legends should be installed west of Eastern Avenue for WB traffic and a 25-mph sign with pavement legend installed east of Marianna Avenue for EB traffic. Please refer to **Figure 1: Proposed Recommendations Diagram** for a visual demonstration of proposed conditions.

1. Install 25 mph signs with pavement legends
2. Repaint center yellow stripe

3. With City, resident, transit and emergency approvals install 2 sets of speed cushions on Triggs Street between Marianna Avenue and Eastern Avenue with “Bump” Warning signs and “Bump” pavement legends on both approaches of the speed cushions.

Figure 1: Proposed Recommendations Diagram – Recommendation 2



Recommendation 3: Triggs Street between Eastern Avenue and East of McDonnell Avenue

After a thorough review of existing field conditions, traffic volume, accident data and roadside conditions it was determined that the following traffic calming measure could be implemented to improve safety and reduce speeding along Triggs Street between Eastern Avenue and to the East of McDonnell Avenue.

Option 3A:

Since this segment of Triggs Street has a high average daily traffic the City may elect to not install speed humps. However, since it has been shown that the white side stripes are reducing the 85th percentile of speed and posted speed limit signs are present along this segment for added emphasis on the posted speed the City may want to place a solar radar speed feedback sign along with a 25 mph sign above it between Duncan Avenue and McBride Streets. Please refer to **Figure 2: Proposed Recommendations Diagram - Option 3A** for a visual demonstration of proposed conditions.

1. Install solar radar speed feedback sign with 25 mph sign above.
 - Midblock between Duncan Avenue and McBride Avenue facing eastbound traffic.
 - Midblock between McBride Avenue and McDonnell Avenue facing westbound traffic.
2. Repaint center yellow stripe Eastern Avenue to east of McDonnell Avenue.

Figure 2: Proposed Recommendations Diagram – Option 3A



Option 3B

Since this area is mainly residential with a park to the east of the segment although this segment is considered a Collector Street with a significant amount of cut thru traffic the City may elect to install speed humps. Speed Humps will reduce cut-through traffic thereby improving safety for pedestrians and bicyclists at the park and in front of residential properties. Speed humps would help to discourage vehicles using Triggs Street as an alternative route to avoid congestion on the I-5 freeway. Please refer to **Figure 3: Proposed Recommendations Diagram – Option 3B** for a visual demonstration of proposed conditions.

1. Install solar radar speed feedback sign with 25 mph sign above.
 - Midblock between Duncan Avenue and McBride Avenue facing eastbound traffic.
 - Midblock between McBride Avenue and McDonnell Avenue facing westbound traffic.
2. Repaint center yellow stripe Eastern Avenue to east of McDonnell Avenue.
3. With resident, transit and emergency approvals install 2 sets of speed cushions on Triggs Street between Duncan Avenue and McDonnell Avenue with “Bump” Warning signs and “Bump” pavement legends on both approaches of the speed cushions.

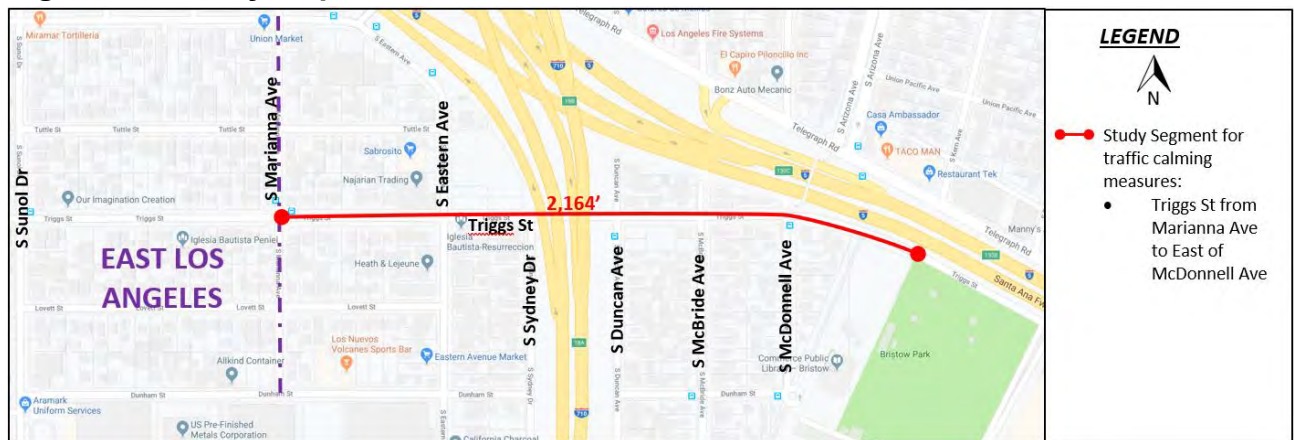
Figure 3: Proposed Recommendations Diagram – Option 3B



BACKGROUND:

The City has received several requests to reduce the amount and speed of traffic along Triggs Street. At Public Works direction, staff has completed a review of the residential section of Triggs Street between Marianna Avenue and East of McDonnell Avenue to determine if it would be a candidate for the installation of traffic calming measures including speed humps. The study location is depicted in **Figure 4: Vicinity Map** below.

Figure 4: Vicinity Map



TRAFFIC CALMING DEVICES AND STRATEGIES:

Traffic calming is the process of reducing vehicle speeds through the use of both passive devices, such as signs and striping, and physical devices such as changes in road elevation or path. As part of this study, traffic speeds, accidents and traffic volumes were used to assess existing conditions along this segment. The type, design and placement of

traffic calming devices depend upon the road classification, desired traffic speed and types of traffic issues along the corridor.

A single traffic calming device placed along a long stretch of road will be marginally effective at slowing down speed at that isolated location. Implementation of a series of traffic calming devices that work together will effectively slow down traffic speeds along the length of the corridor. There are various traffic calming measures that can reduce the flow and speed of traffic on a street. Some of these are:

- 1) **Traffic Education Campaign:** This consists of flyers, neighborhood meetings, banners and other notices to assist in making the public aware of the traffic conditions in a certain area. The goal is to educate residents and non-residents about basic traffic laws, speed limits and safety conditions near schools.

- 2) **Signage and Pavement Legends:** Modifying the signage along the road or change the striping to narrow travel lanes to effectively slow speeds by changing the travel environment. Signs alert the Driver to their speed, such as larger speed limit signs or a speed feedback sign. Too many signs can have an opposite effect on traffic. Therefore, usage of signs should be subject to careful consideration and compliance with local and regional standards. Speed and stop ahead legends alert the drivers of a change in traffic conditions. Speed limit signs and striped speed limit pavement “messages,” either used separately or as a combination, are one of the most cost effective measures in increasing awareness of motorists traveling through a neighborhood street. These two devices do not have glaring negative impacts as far as air quality, emergency response time, maintenance, and liability exposure.

- 3) **Larger Dimension Signs:** Installation of larger dimensioned signage are recommended as treatments to increase the motorist’s awareness and other Driver conditions by highlighting various areas of the roadway. All sign dimensions should comply with the dimensions specified in the California Manual of Uniform Traffic Control Devices (CAMUTCD) Table 2B-1 Regulatory Sign and Plaque Sizes. The oversized sizes are shown in the multi-lane column as 48” x 48” for stop signs and 30” x 36” for speed limits.

Table 2B-1. Regulatory Sign and Plaque Sizes (Sheet 1 of 4)

Sign or Plaque	Sign Designation	Section	Conventional Road		Expressway	Freeway	Minimum	Oversized
			Single Lane	Multi-Lane				
Stop	R1-1	2B.05	30 x 30*	36 x 36	36 x 36	—	30 x 30*	48 x 48
Speed Limit	R2-1	2B.13	24 x 30*	30 x 36	36 x 48	48 x 60	18 x 24*	30 x 36

- 4) **Traffic Striping:** Roadway striping can be implemented as an option that is a low cost alternative to vertical/horizontal traffic calming measures. This includes a white stripe painted along both sides of the travel way to give the driver a perception of a

narrower road. Narrower lanes create “friction” and thereby cause Drivers to travel at a slower pace. This has been used in Commerce as well as other local cities such as in Alhambra, Rosemead, and Temple City, Newport Beach, San Clemente, and Irvine. This traffic calming measure is considered to be less costly with minor impacts to neighborhoods.

These have;

- Less impacts to emergency services
- Less costly
- Greater flexibility (can be installed or removed easily)
- No impact to drainage
- Can provide parking lanes
- Found to reduce speeds from 1 mph to 7 mph
- Can be quickly implemented

Traffic striping as a traffic calming device can effectively reduce speed on a roadway. This is particularly effective on long, straight roadways where there are wide travel lanes for long distances. Striping has shown to reduce speed effectively as a first step in the traffic calming process, as documented in surveys and traffic calming sources. As a first stage treatment the City installed side striped along Triggs Street from Marianna Avenue to McDonnell Avenue.




Example of white striping for the perception of a narrower road.



Example of white striping for the perception of a narrower road on Triggs Street.

- 5) Gateway Entrance: These treatments consist of a physical change to streets that are located at key entryways into a neighborhood. They consist of chokers that help to narrow a street’s right-of-way. The goal of gateways is to remind Drivers that they are entering a local residential area. This would require hardscape improvements and require budget for installation, design, and construction. It also may alter or move traffic from one street to another. A more detailed study would be required; this measure is typically used after more non-invasive measures are shown to not be effective.

- 6) Radar Feedback Signs: Radar feedback signs are an effective way to alert Drivers of their speed. A portable sign surveys the speed of each passing vehicle and displays the speed information on a board next to the posted speed limit. The sign is used as passive enforcement to inform Drivers of their travel speed. They can be affixed to streetlight poles and run on solar power or small battery packs. Relocating the radar feedback signs on a regular basis will reduce the potential for Drivers to become accustomed to the signs and ignore them. It also allows the City to relocate the signs as necessary to address community concerns over speed issues throughout the City. This measure would require manpower to move and monitor the signs. There would also be an initial cost to purchase the units.
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- 7) Targeted Police Enforcement: The police department deploys officers to perform enforcement on residential streets for at least an hour a day. The goal is to make Drivers aware of the speed limits and reduce speeds. This requires the cooperation and dedication of police enforcement. This has been shown to be a good spot enforcement technique.
- 8) Speed Humps are considered a traffic calming device. However, design and application vary widely between jurisdictions. The City of Commerce adopted a Speed Hump Policy on April 24, 2017 which outlines the procedures required in requesting speed humps to be installed on a particular street. Eligibility requirements are factored in, with the requisite petition from the neighborhood and adjoining neighborhood participants in making a formal public request. Then subsequent staff evaluations are made to ensure that the installation of traffic calming devices meet code requirements, engineering standards, and safety.

Traffic Commission and Council approvals are required for the installation of any traffic calming device(s).

ANALYSIS:

Figure 5: Existing Conditions Map



Triggs Street: Triggs Street is approximately 39-feet in width with one lane in each direction and a yellow center dashed line. Triggs Street from Marianna Avenue to McDonnell Avenue is considered a Collector street with a posted speed limit of 25 MPH. Triggs Avenue to the west of Marianna Avenue is in East Los Angeles. Parking is permitted on both sides of the roadway with the exception of street sweeping restrictions. Triggs Street at McDonnell Avenue, Duncan Avenue, and Eastern Avenue is STOP controlled in all directions and Triggs Street at Sunol Drive is STOP controlled in the east-west directions only. Triggs Street, from McDonnell Avenue to Duncan Avenue is uncontrolled for approximately 630-feet, from Duncan Avenue to Eastern Avenue is uncontrolled for approximately 610-feet, and from Eastern Avenue to Marianne Avenue is uncontrolled for approximately 565-feet. Triggs Street serves as a transit (bus) route for the City of Commerce Bus Blue Line, Purple Line and Red Line, with several stops along the segment as shown above in **Figure 5: Existing Conditions Map**. Triggs Street west of Eastern Avenue is posted for no trucks. Land use along Triggs Street along this entire segment is considered residential. East of McDonnell Avenue, Triggs Street has a posted speed limit of 30 mph with a reduced 25 mph speed limit for the park. For Stage One in traffic calming the City has installed roadway narrowing painted white side stripes on Triggs Street from Marianna Avenue to McDonnell Avenue.

EXISTING AVERAGE DAILY TRAFFIC:

As a part of the traffic study, the Average Daily Traffic (ADT) data was obtained from counts taken on March 21, 2019, a recount was performed on April 23, 2019 for the segment of Triggs east of Duncan Avenue. A summary of ADT data is shown in Table 1: Average Daily Traffic (ADT).

Table 1: Average Daily Traffic (ADT)			
Location	Vehicles per Day (vpd) 04/23/2019	Vehicles per Day (vpd) 03/21/2019	Vehicles per Day (vpd) 08/08/2016
Triggs Street between Marianna Avenue and Eastern Avenue		1,743	
Triggs Street Eastern Avenue to McDonnell Avenue		5,216	5,783
Triggs Street east of McDonnell in front of park	5,875		

In order to determine the existing ADT for Triggs Street, counts were taken on Triggs Street between Duncan Avenue and McDonnell Avenue and between Marianna Avenue and Eastern Avenue. Triggs Street between Duncan Avenue and McDonnell Avenue had 5,216 vehicle trips over a 24-hour period and Triggs Street between Marianna Avenue and Eastern Avenue has 1,743 vehicle trips over a 24-hour period. The difference in vehicles traveling along Triggs Street can be attributed to access to the (I-5)-Freeway with an EB ramp 2,700-feet east of McDonnell Avenue, with access to the WB ramps a little further. As seen in the recounts traffic can increase along this stretch depending on the traffic congestion on the I-5 freeway. From data collected, Triggs east of Eastern Avenue has the most traffic likely comprised of commuter traffic. Residents are concerned with this travel pattern because vehicles are traveling through residential neighborhoods and passing the Bristow Park with a mix of traffic (cars, pedestrians, bicyclists).

ACCIDENT INVESTIGATION:

An accident investigation was conducted using the last 6 available years from SWITRS (Statewide Integrated Traffic Records System) records for the two study segments of Triggs Street between Marianna Avenue and Eastern Avenue and Triggs Street between Eastern Avenue and East of McDonnell Avenue. 1 accident was reported from 2013 to 2018 on the segment of Triggs Street between Marianna Avenue and Eastern Avenue and a total of 9 accidents from 2013 to 2018 were reported on the segment of Triggs Street between Duncan Avenue and East of McDonnell Avenue.

Table 2 and **Table 3** provide a detailed list of the collisions along the two-study segment on Triggs Street.

Triggs St: Marianna Ave to Eastern Ave

1 accident in 2018
0 accidents in 2017
0 accidents in 2016
0 accidents in 2015
0 accidents in 2014
0 accidents in 2013

Triggs St: Eastern to East of McDonnell Ave

2 accidents in 2018
4 accidents in 2017
2 accidents in 2016
0 accidents in 2015
0 accidents in 2014
1 accident in 2013

Table 2: Summary of Accident History between Marianna Avenue and Eastern Avenue							
No.	Location	Dist.	Date	Collision Type	Severity	PCF	Factor
1	TRIGGS ST AT EASTERN AVE	15'W	06/27/2018	SIDESWIPE	PDO	IMPROP TURN	WB OTHER VEH HIT EB THRU VEH

As seen in **Table 2**, there was 1 collision along the study segment of Triggs Street between Marianna Avenue and Eastern Avenue from 2013 to 2018. A westbound vehicle sideswiped an eastbound vehicle due to an improper turn.

Table 3: Summary of Accident History between Eastern Avenue and East of McDonnell Avenue							
No.	Location	Dist.	Date	Collision Type	Severity	PCF	Factor
1	TRIGGS ST AT DUNCAN AVE	49'E	09/20/2018	SIDESWIPE	PDO	UNSAFE SPEED	EB THRU VEH HIT EB PARKED VEH
2	TRIGGS ST AT MCBRIDE AVE	0	07/26/2018	REAR END	PDO	TOO CLOSE	EB THRU VEH HIT EB SLOWING VEH
3	TRIGGS ST AT MCDONNELL AVE	27'E	11/22/2017	BROADSIDE	PDO	R-O-W AUTO	EB ENT TRAF VEH HIT EB THRU VEH
4	TRIGGS ST AT DUNCAN AVE	70'E	02/19/2017	SIDESWIPE	PDO	DRVR ALC DRG	EB THRU VEH HIT EB PARKED VEH
5	TRIGGS ST AT MCBRIDE AVE	39'E	03/20/2017	SIDESWIPE	PDO	IMPROP TURN	WB THRU VEH HIT WB PARKED VEH
6	TRIGGS ST AT MCBRIDE AVE	18'W	01/12/2017	BROADSIDE	OTHER VIS INJ	STOP SGN SIG	NB THRU VEH HIT EB THRU VEH
7	TRIGGS ST AT DUNCAN AVE	15'E	08/27/2016	SIDESWIPE	PDO	IMPROP TURN	WB UNS TURN VEH HIT PARKED VEH
8	TRIGGS ST AT MCBRIDE AVE	15'W	08/03/2016	HEAD-ON	PDO	WRONG SIDE	WB WRONG WY VEH HIT EB PARKED VEH
9	TRIGGS ST AT MCDONNELL AVE	60'W	07/07/2013	SIDESWIPE	PDO	DRVR ALC DRG	WB THRU VEH HIT 2 EB PARKED VEH

As seen in **Table 3**, there were a total of 9 collision along the study segment of Triggs Street between Eastern Avenue and East of McDonnell Avenue from 2013 to 2018. Out of the 9 collisions, 6 accidents involved a vehicle striking a parked car, and there was 1 rear end collision due to following too close, and 2 broadside collisions. Only 1 accident was due to a vehicle speeding.

SPEED SURVEY:

In order to assess the speed at which vehicles are traveling along Triggs Street, speed samples were taken over a 24-hour period on March 21, 2019 and a spot sample on April 25, 2019. Samples were taken at several different segments on Triggs Street. The data showed that the 85th percentile speed of vehicles along Triggs Street between Marianna Avenue and east of McDonnell Avenue is in line with the posted 25mph speed limit. **Table 4** below shows the 2019 speed survey results:

Table 4: Speed Survey along Triggs Street between Marianna Avenue and Eastern Avenue and Eastern Avenue to East of McDonnell Avenue

	Location	Dir. Of Travel	Date/Time of Survey	85%ile Speed	ADT	Posted Limit MPH
1	Triggs Street between Marianna Avenue and Eastern Avenue	EB/WB	03/21/2019 (24-hour Period)	29	1,743	25
2	Triggs Street between Eastern Avenue and East of McDonnell Avenue	EB/WB	03/21/2019 (24-hour Period)	28	5,216	25
3	Triggs Street between Eastern Avenue and East of McDonnell Avenue	EB/WB	04/25/19 (9:00-10:00)	29.9	5,216	25

To determine how these segments, compare to other similar roadways an accident rate is calculated for each segment. The calculated accident rate is based on type of roadway, ADT, segment length, number of years in the crash period and number of crashes per million vehicles. LA County has determined the actual crash rate formula is $\text{#midblock collisions} \times 1,000,000 / \text{ADT} \times \text{Years} \times 365 \times \text{Length in miles}$. For an urban collector street, the expected rate is **1.96**. The calculated accident rates for the segment of Triggs Street between Marianna Avenue and Eastern Avenue is 2.38 and between Eastern Avenue and East of McDonnell Avenue is 3.28. The calculated accidents rates are higher than expected accident rates of 1.96 for a similar type of roadway. This means that the segments are candidates for traffic calming measures.

In 2016 the City of Commerce prepared and adopted their Citywide Radar Speed Survey, as a comparison to check the current data the 2016 results of the speed survey and ADT counts are shown below in **Table 5**. To note in 2016 the segment included a longer stretch of Triggs Street between Marianna Avenue to McDonnell Avenue. The 2016 and 2019 results are similar but in 2016 vehicles were traveling 3 mph faster. As a previous traffic calming measure the City installed white side stripes along the Triggs Street segment to visually narrow the roadway. Based on the speed survey comparison data it can be concluded that the measure is working to reduce speeds on Triggs Street near the west side.

Table 5: 2016 Citywide Speed Survey Results

	Location	Dir. Of Travel	Date/Time of Survey	85%ile Speed	ADT	Calculated Acc Rate	Posted Limit MPH
1	Triggs Street between Marianna Avenue and McDonnell Avenue	EB/WB	08/08/2016	32.4	5,783	3.152	25

SPEED HUMP POLICY:

The installation of speed humps is intended to reduce speeding vehicles in residential neighborhoods. Speeding vehicles increases the possibility of pedestrian to vehicle crashes in an area that should be encouraging alternative modes of travel such as walking and bicycling for adults, seniors as well as school age children. Speed humps and other pavement undulations are not approved traffic-control devices as defined in the California Manual on Uniform Traffic Control Devices (CA MUTCD), the official document establishing which roadway devices may be readily installed on public streets. Instead, a speed hump is considered to be a geometric "design feature" within the roadway that must be designed, installed and maintained based on prudent engineering judgment and supported by a sufficient study of its need--to avoid property damage, personal injury or other possible civil liabilities. Most Cities have adopted policies to use as general guidelines of when and where the placement of speed humps may be appropriate. These guidelines are updated and modified periodically to address community needs, safety and travel patterns. In 2017 the City of Commerce prepared a Speed Hump Policy which provides general guidelines of determining which streets would be candidates for installation of speed humps. The installation of speed humps is based on site and type of street, traffic volume, accident rates, number of lanes, speed of traffic, proximity to parks and schools and proper engineering principles and resident agreement. The adjacent Cities of Montebello and City of Los Angeles also have guidelines that are similar but slightly different. Speed humps have advantages and disadvantages so careful consideration should be given before installation. A summary of the advantages and disadvantages is provided below:

Advantages of Speed Humps

- Potential to Reduce Speeds
- Potential to Reduce Traffic Volume
- Can Reduce Cut-Thru Traffic
- Minimal Impact to On-Street Parking

Disadvantages of Speed Humps

- Potential for Vehicles to Avoid Bumps by "Gutter" Running
- Potential for Increased Noise
- Potential for Traffic Diverting to Another Street to Avoid
- May affect Transit and Emergency Vehicles

The following are City of Commerce Guidelines:

1. The street must be functionally classified as a local street. The street cannot be designated a collector street or higher classification.
2. The street should be primarily residential in nature, but streets in commercially or industrially zoned areas can be eligible for speed humps, consistent with engineering analysis and safety concerns.
3. The street should not be a truck, transit (bus) route, or emergency service route.
4. The street does not have more than one traffic lane in each direction.
5. The street should have a minimum length of at least 500 feet, preferably 750 feet.

6. The street must have a posted or prima facie speed limit not exceeding 25 miles-per-hour.
7. The street must have a minimum ADT volume of 1,000 vehicles per day and a maximum ADT volume of 3,000 vehicles per day.
8. The street must have adequate drainage and ADA access at street entrances and intersections.
9. The street must have roadway pavement, curbs, gutters, adjoining parkways and sidewalks in good condition.
10. The street cannot have any alignment, grade or sight-distance problems that would be affected or created by speed humps.

Using the guidelines as presented above the segment of Triggs Street from Marianna Avenue to Eastern Avenue would be a candidate for installation of speed humps by meeting most of the criteria for installation. The segment of Triggs Street from Eastern Avenue to East of McDonnell Avenue has higher volume of traffic, and is classified as a collector street but the City may want to install speed bumps as a Stage 2 Traffic Calming alternative to try and reduce the amount of traffic and speeding on this section due to cut-through traffic avoiding the congested I-5 freeway, with the benefits of installing speed humps outweighing the negative. Residents have complained that the increase in traffic during peak travel times is decreasing their quality of life and living environment and reducing the amount of traffic near the park will improve safety conditions for residents using the park. The whole segment of Triggs Street does not meet City of Commerce speed hump criteria in that it is considered a collector street in the City's General Plan Circulation Element, serves as a transit (bus) route for the City of Commerce Bus Blue Line, Red Line, and Purple Line, and has an Average Daily Traffic volume of 5,216 vehicles per day which exceed the maximum ADT volume of 3,000 vehicles per day. However, the segment of Triggs Street from Marianna Avenue to Eastern has ADT of which falls within the threshold of 1,000 vehicles per day to 3,000 vehicles per day threshold. Since a lot of streets in the City of Commerce that are residential in nature but are serving as cut-thru routes to avoid the congested freeway the City may also want to consider adding to or modifying the Cities Speed Hump Policy to include a section for streets that are residential in nature but are considered to be Collector streets that are being affected by regional cut thru traffic. This change would be more in line with City of Los Angeles Speed Hump Guidelines that provides a broader definition of the type of streets that can be considered for speed humps. City of Los Angeles guidelines are attached for reference purposes.

ALTERNATIVES:

1. Approve staff recommendation
2. Reject staff recommendation
3. Provide staff with further direction

FISCAL IMPACT:

Staff estimates that the lump sum cost of installing the speed humps and stop signs will be approximately \$75,000.

Respectfully submitted,

Daniel Hernandez
Director of Public Works

Recommended & prepared by:

Contracted Traffic Engineers

ATTACHMENTS:

1. Average Daily Vehicle Count & 24-hour speed survey (Triggs St: Marianna Ave to Eastern Ave)
2. Average Daily Vehicle Count & 24-hour speed survey (Triggs St: Duncan Ave to McDonnell Ave)
3. Average Daily Vehicle Count (April 23, 2019) on Triggs St East of Duncan Ave
4. Spot Speed Sample Triggs Street: Eastern Avenue to East of McDonnell Ave
5. City of Commerce Speed Hump Policy
6. City of Los Angeles Department of Transportation Speed Hump Evaluation Guidelines
7. City of Montebello Speed Hump Evaluation Guidelines

Attachment 1: Average Daily Vehicle Count & 24-hour Speed Survey (Triggs St: Marianna Ave to Eastern Ave)

Prepared by National Data & Surveying Services

VOLUME

Triggs St Bet. Marianna Ave & Eastern Ave

Day: Thursday
Date: 3/21/2019

City: Commerce
Project #: CA19_5137_015

DAILY TOTALS					NB	SB						EB	WB	Total	
					0	0						1,197	546	1,743	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00	0	0	3	2	5		12:00	0	0	6	7	13			
00:15	0	0	1	1	2		12:15	0	0	6	11	17			
00:30	0	0	2	3	5		12:30	0	0	12	6	18			
00:45	0	0	1	7	3	9	12:45	0	0	9	33	9	33	18	66
01:00	0	0	1	0	1		13:00	0	0	11	11	22			
01:15	0	0	1	1	2		13:15	0	0	10	10	20			
01:30	0	0	1	1	2		13:30	0	0	16	11	27			
01:45	0	0	0	3	0	2	13:45	0	0	14	51	7	39	21	90
02:00	0	0	0	0	0		14:00	0	0	22	7	29			
02:15	0	0	0	0	0		14:15	0	0	13	12	25			
02:30	0	0	1	2	3		14:30	0	0	24	5	29			
02:45	0	0	0	1	0	2	14:45	0	0	11	70	8	32	19	102
03:00	0	0	2	0	2		15:00	0	0	18	10	28			
03:15	0	0	1	0	1		15:15	0	0	17	12	29			
03:30	0	0	2	2	4		15:30	0	0	22	6	28			
03:45	0	0	2	7	0	2	15:45	0	0	32	89	9	37	41	126
04:00	0	0	1	1	2		16:00	0	0	59	11	70			
04:15	0	0	1	2	3		16:15	0	0	47	8	55			
04:30	0	0	4	2	6		16:30	0	0	64	11	75			
04:45	0	0	2	8	1	6	16:45	0	0	64	234	8	38	72	272
05:00	0	0	10	0	10		17:00	0	0	40	12	52			
05:15	0	0	5	2	7		17:15	0	0	48	11	59			
05:30	0	0	6	2	8		17:30	0	0	48	10	58			
05:45	0	0	10	31	2	6	17:45	0	0	65	201	8	41	73	242
06:00	0	0	10	1	11		18:00	0	0	46	9	55			
06:15	0	0	9	2	11		18:15	0	0	31	16	47			
06:30	0	0	6	4	10		18:30	0	0	31	7	38			
06:45	0	0	16	41	6	13	18:45	0	0	13	121	7	39	20	160
07:00	0	0	10	6	16		19:00	0	0	14	8	22			
07:15	0	0	17	14	31		19:15	0	0	8	6	14			
07:30	0	0	11	8	19		19:30	0	0	7	4	11			
07:45	0	0	17	55	13	41	19:45	0	0	7	36	5	23	12	59
08:00	0	0	9	10	19		20:00	0	0	5	6	11			
08:15	0	0	11	8	19		20:15	0	0	4	7	11			
08:30	0	0	15	5	20		20:30	0	0	10	8	18			
08:45	0	0	6	41	8	31	20:45	0	0	8	27	10	31	18	58
09:00	0	0	8	3	11		21:00	0	0	2	8	10			
09:15	0	0	7	5	12		21:15	0	0	5	6	11			
09:30	0	0	4	7	11		21:30	0	0	4	1	5			
09:45	0	0	6	25	2	17	21:45	0	0	1	12	2	17	3	29
10:00	0	0	9	6	15		22:00	0	0	4	7	11			
10:15	0	0	9	6	15		22:15	0	0	8	1	9			
10:30	0	0	8	5	13		22:30	0	0	3	2	5			
10:45	0	0	15	41	11	28	22:45	0	0	1	16	2	12	3	28
11:00	0	0	12	7	19		23:00	0	0	2	0	2			
11:15	0	0	7	14	21		23:15	0	0	2	2	4			
11:30	0	0	11	10	21		23:30	0	0	1	3	4			
11:45	0	0	11	41	10	41	23:45	0	0	1	6	1	6	2	12
TOTALS					301	198	TOTALS					896	348	1244	
SPLIT %					60.3%	39.7%	SPLIT %					72.0%	28.0%	71.4%	

DAILY TOTALS					NB	SB						EB	WB	Total	
					0	0						1,197	546	1,743	
AM Peak Hour					07:00	07:15	07:15	PM Peak Hour					16:00	17:30	16:00
AM Pk Volume					55	45	99	PM Pk Volume					234	43	272
Pk Hr Factor					0.809	0.804	0.798	Pk Hr Factor					0.914	0.672	0.907
7 - 9 Volume	0	0	96	72	168		4 - 6 Volume	0	0	435	79	514			
7 - 9 Peak Hour					07:00	07:15	07:15	4 - 6 Peak Hour					16:00	16:30	16:00
7 - 9 Pk Volume	0	0	55	45	99		4 - 6 Pk Volume	0	0	234	42	272			
Pk Hr Factor	0.809	0.804	0.809	0.804	0.798		Pk Hr Factor	0.909	0.806	0.914	0.875	0.907			

Attachment 1: Average Daily Vehicle Count & 24-hour Speed Survey (Triggs St: Marianna Ave to Eastern Ave)

Prepared by National Data & Surveying Services

SPEED

Triggs St Bet. Marianna Ave & Eastern Ave

Day: Thursday

Date: 3/21/2019

City: Commerce

Project #: CA19_5137_015

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	1	4	2	6	1	1	1	0	0	0	0	0	0	16
01:00	0	0	1	3	1	0	0	0	0	0	0	0	0	5
02:00	0	1	0	2	0	0	0	0	0	0	0	0	0	3
03:00	0	3	2	1	3	0	0	0	0	0	0	0	0	9
04:00	1	3	3	5	2	0	0	0	0	0	0	0	0	14
05:00	0	2	18	11	5	1	0	0	0	0	0	0	0	37
06:00	2	5	25	20	2	0	0	0	0	0	0	0	0	54
07:00	1	11	35	34	11	2	2	0	0	0	0	0	0	96
08:00	3	8	27	26	8	0	0	0	0	0	0	0	0	72
09:00	0	4	21	13	2	2	0	0	0	0	0	0	0	42
10:00	3	14	25	24	3	0	0	0	0	0	0	0	0	69
11:00	1	10	30	34	4	3	0	0	0	0	0	0	0	82
12:00 PM	2	5	21	31	6	1	0	0	0	0	0	0	0	66
13:00	3	12	27	33	14	1	0	0	0	0	0	0	0	90
14:00	0	16	44	33	8	0	1	0	0	0	0	0	0	102
15:00	4	16	53	45	8	0	0	0	0	0	0	0	0	126
16:00	18	57	114	61	22	0	0	0	0	0	0	0	0	272
17:00	9	52	90	82	6	2	1	0	0	0	0	0	0	242
18:00	16	31	66	42	5	0	0	0	0	0	0	0	0	160
19:00	5	14	26	10	4	0	0	0	0	0	0	0	0	59
20:00	2	10	31	14	1	0	0	0	0	0	0	0	0	58
21:00	2	9	13	5	0	0	0	0	0	0	0	0	0	29
22:00	0	2	13	7	5	1	0	0	0	0	0	0	0	28
23:00	0	1	5	3	2	1	0	0	0	0	0	0	0	12
Totals	73	290	692	545	123	15	5							1743
% of Totals	4%	17%	40%	31%	7%	1%	0%							100%

AM Volumes	12	65	189	179	42	9	3	0	0	0	0	0	0	499
% AM	1%	4%	11%	10%	2%	1%	0%							29%
AM Peak Hour	08:00	10:00	07:00	07:00	07:00	11:00	07:00							07:00
Volume	3	14	35	34	11	3	2							96
PM Volumes	61	225	503	366	81	6	2	0	0	0	0	0	0	1244
% PM	3%	13%	29%	21%	5%	0%	0%							71%
PM Peak Hour	16:00	16:00	16:00	17:00	16:00	17:00	14:00							16:00
Volume	18	57	114	82	22	2	1							272
Directional Peak Periods		AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes						
All Speeds		Volume		%	Volume		%	Volume		%	Volume		%	
		168	↔	10%	156	↔	9%	514	↔	29%	905	↔	52%	

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Triggs St	Summary	18	24	24	29	32	1743

Attachment 2: Average Daily Vehicle Count & 24-hour Speed Survey (Triggs St: Duncan Ave to McDonnell Ave)

Prepared by National Data & Surveying Services

VOLUME

Triggs St Bet. Duncan Ave & McDonnell Ave

Day: Thursday
Date: 3/21/2019

City: Commerce
Project #: CA19_5137_014

DAILY TOTALS					NB	SB	EB					WB	Total			
					0	0						3,180	2,036	5,216		
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL				
00:00	0	0	5	8	13		12:00	0	0	32	24	56				
00:15	0	0	1	0	1		12:15	0	0	27	38	65				
00:30	0	0	4	7	11		12:30	0	0	37	43	80				
00:45	0	0	3	13	5	20	12:45	0	0	29	125	24	129	53	254	
01:00	0	0	2	5	7		13:00	0	0	32	42	74				
01:15	0	0	1	4	5		13:15	0	0	29	32	61				
01:30	0	0	1	1	2		13:30	0	0	47	36	83				
01:45	0	0	1	5	0	10	13:45	0	0	52	160	30	140	82	300	
02:00	0	0	1	0	1		14:00	0	0	55	40	95				
02:15	0	0	3	3	6		14:15	0	0	39	46	85				
02:30	0	0	3	8	11		14:30	0	0	52	45	97				
02:45	0	0	3	10	1	12	14:45	0	0	52	198	38	169	90	367	
03:00	0	0	2	2	4		15:00	0	0	61	39	100				
03:15	0	0	3	4	7		15:15	0	0	90	34	124				
03:30	0	0	4	10	14		15:30	0	0	117	40	157				
03:45	0	0	9	18	5	21	15:45	0	0	119	387	43	156	162	543	
04:00	0	0	8	2	10		16:00	0	0	156	29	185				
04:15	0	0	9	6	15		16:15	0	0	122	33	155				
04:30	0	0	7	14	21		16:30	0	0	43	54	97				
04:45	0	0	13	37	9	31	16:45	0	0	25	346	33	149	58	495	
05:00	0	0	13	3	16		17:00	0	0	43	33	76				
05:15	0	0	21	3	24		17:15	0	0	135	35	170				
05:30	0	0	32	12	44		17:30	0	0	138	35	173				
05:45	0	0	43	109	20	38	17:45	0	0	84	400	24	127	108	527	
06:00	0	0	31	14	45		18:00	0	0	67	32	99				
06:15	0	0	29	11	40		18:15	0	0	43	25	68				
06:30	0	0	29	11	40		18:30	0	0	78	28	106				
06:45	0	0	37	126	23	59	18:45	0	0	70	258	32	117	102	375	
07:00	0	0	31	20	51		19:00	0	0	66	26	92				
07:15	0	0	53	24	77		19:15	0	0	33	25	58				
07:30	0	0	41	19	60		19:30	0	0	29	19	48				
07:45	0	0	48	173	28	91	19:45	0	0	14	142	17	87	31	229	
08:00	0	0	38	27	65		20:00	0	0	18	25	43				
08:15	0	0	45	21	66		20:15	0	0	13	30	43				
08:30	0	0	39	21	60		20:30	0	0	20	35	55				
08:45	0	0	39	161	20	89	20:45	0	0	17	68	27	117	44	185	
09:00	0	0	18	19	37		21:00	0	0	13	26	39				
09:15	0	0	30	17	47		21:15	0	0	15	14	29				
09:30	0	0	20	19	39		21:30	0	0	12	16	28				
09:45	0	0	24	92	24	79	21:45	0	0	16	56	14	70	30	126	
10:00	0	0	17	25	42		22:00	0	0	15	29	44				
10:15	0	0	33	23	56		22:15	0	0	11	7	18				
10:30	0	0	24	28	52		22:30	0	0	6	9	15				
10:45	0	0	30	104	31	107	22:45	0	0	6	38	12	57	18	95	
11:00	0	0	30	41	71		23:00	0	0	7	6	13				
11:15	0	0	41	38	79		23:15	0	0	8	6	14				
11:30	0	0	31	30	61		23:30	0	0	9	7	16				
11:45	0	0	22	124	33	142	23:45	0	0	6	30	0	19	6	49	
TOTALS	972					699	TOTALS	2208					1337	3545		
SPLIT %	58.2%					41.8%	SPLIT %	62.3%					37.7%	68.0%		

DAILY TOTALS					NB	SB						EB	WB	Total
					0	0						3,180	2,036	5,216
AM Peak Hour	07:15				11:00	07:15	PM Peak Hour	15:30				14:00	15:30	
AM Pk Volume	180				142	278	PM Pk Volume	514				169	659	
Pk Hr Factor	0.849				0.866	0.903	Pk Hr Factor	0.824				0.918	0.891	
7 - 9 Volume	0	0	334	180	514		4 - 6 Volume	0	0	746	276	1022		
7 - 9 Peak Hour	07:15				07:15	07:15	4 - 6 Peak Hour	17:00				16:30	17:00	
7 - 9 Pk Volume	0	0	180	98	278		4 - 6 Pk Volume	0	0	400	155	527		
Pk Hr Factor	0.903	0.903	0.849	0.875	0.903		Pk Hr Factor	0.903	0.903	0.725	0.718	0.762		

Attachment 2: Average Daily Vehicle Count & 24-hour Speed Survey (Triggs St: Duncan Ave to McDonnell Ave)

Prepared by National Data & Surveying Services

SPEED

Triggs St Bet. Duncan Ave & McDonnell Ave

Day: Thursday
Date: 3/21/2019

City: Commerce
Project #: CA19_5137_014

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	2	2	18	8	2	1	0	0	0	0	0	0	0	33
01:00	1	0	9	4	1	0	0	0	0	0	0	0	0	15
02:00	0	3	11	7	1	0	0	0	0	0	0	0	0	22
03:00	1	7	16	13	1	1	0	0	0	0	0	0	0	39
04:00	3	12	22	26	5	0	0	0	0	0	0	0	0	68
05:00	1	12	67	55	12	0	0	0	0	0	0	0	0	147
06:00	4	25	83	60	12	1	0	0	0	0	0	0	0	185
07:00	4	37	114	101	6	1	1	0	0	0	0	0	0	264
08:00	8	38	122	75	6	0	1	0	0	0	0	0	0	250
09:00	2	25	82	50	10	2	0	0	0	0	0	0	0	171
10:00	7	35	97	58	13	0	1	0	0	0	0	0	0	211
11:00	5	46	118	83	14	0	0	0	0	0	0	0	0	266
12:00 PM	4	31	125	86	8	0	0	0	0	0	0	0	0	254
13:00	7	57	162	63	11	0	0	0	0	0	0	0	0	300
14:00	10	60	178	98	18	1	2	0	0	0	0	0	0	367
15:00	53	111	244	123	7	1	3	1	0	0	0	0	0	543
16:00	161	112	151	60	6	2	1	2	0	0	0	0	0	495
17:00	128	130	192	66	8	0	2	1	0	0	0	0	0	527
18:00	132	60	128	49	4	1	1	0	0	0	0	0	0	375
19:00	4	35	112	75	2	1	0	0	0	0	0	0	0	229
20:00	4	29	95	49	5	2	0	1	0	0	0	0	0	185
21:00	3	15	69	35	3	1	0	0	0	0	0	0	0	126
22:00	4	12	51	22	6	0	0	0	0	0	0	0	0	95
23:00	0	8	25	12	4	0	0	0	0	0	0	0	0	49
Totals	548	902	2291	1278	165	15	12	5						5216
% of Totals	11%	17%	44%	25%	3%	0%	0%	0%						100%

AM Volumes	38	242	759	540	83	6	3	0	0	0	0	0	0	1671
% AM	1%	5%	15%	10%	2%	0%	0%							32%
AM Peak Hour	08:00	11:00	08:00	07:00	11:00	09:00	07:00							11:00
Volume	8	46	122	101	14	2	1							266
PM Volumes	510	660	1532	738	82	9	9	5	0	0	0	0	0	3545
% PM	10%	13%	29%	14%	2%	0%	0%	0%						68%
PM Peak Hour	16:00	17:00	15:00	15:00	14:00	16:00	15:00	16:00						15:00
Volume	161	130	244	123	18	2	3	2						543
Directional Peak Periods		AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes
All Speeds		Volume				Volume				Volume				Volume
		514				554				1022				3126
		↔				↔				↔				↔
		10%				11%				20%				60%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Triggs St	Summary	16	23	22	28	30	5216

Attachment 3: Average Daily Vehicle Count (April 23, 2019) on Triggs St East of Duncan Ave

Prepared by NDS/ATD

VOLUME

Triggs St E/O Duncan Ave

Day: Tuesday
Date: 4/23/2019

City: Commerce
Project #: CA19_5213_003

DAILY TOTALS					NB	SB					EB	WB	Total
					0	0					3,709	2,166	5,875
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00			1	1	2		12:00			32	38	70	
00:15			2	3	5		12:15			26	37	63	
00:30			2	10	12		12:30			35	37	72	
00:45			2	7 1 15	3 22		12:45			41	134 34 146	75 280	
01:00			3	2	5		13:00			30	33	63	
01:15			2	5	7		13:15			25	36	61	
01:30			1	3	4		13:30			39	25	64	
01:45			2	8 3 13	5 21		13:45			31	125 21 115	52 240	
02:00			2	5	7		14:00			37	36	73	
02:15			3	4	7		14:15			46	38	84	
02:30			2	5	7		14:30			66	31	97	
02:45			2	9 3 17	5 26		14:45			65	214 44 149	109 363	
03:00			4	3	7		15:00			92	38	130	
03:15			9	3	12		15:15			142	38	180	
03:30			4	10	14		15:30			131	41	172	
03:45			8	25 1 17	9 42		15:45			121	486 39 156	160 642	
04:00			11	3	14		16:00			161	30	191	
04:15			5	8	13		16:15			148	37	185	
04:30			11	10	21		16:30			159	65	224	
04:45			14	41 7 28	21 69		16:45			145	613 35 167	180 780	
05:00			17	4	21		17:00			151	49	200	
05:15			16	5	21		17:15			159	34	193	
05:30			24	15	39		17:30			128	41	169	
05:45			37	94 18 42	55 136		17:45			108	546 27 151	135 697	
06:00			17	20	37		18:00			89	34	123	
06:15			28	12	40		18:15			92	30	122	
06:30			26	20	46		18:30			67	35	102	
06:45			32	103 23 75	55 178		18:45			41	289 27 126	68 415	
07:00			29	13	42		19:00			43	43	86	
07:15			48	27	75		19:15			41	27	68	
07:30			46	28	74		19:30			25	34	59	
07:45			54	177 26 94	80 271		19:45			24	133 34 138	58 271	
08:00			49	28	77		20:00			20	34	54	
08:15			45	21	66		20:15			18	38	56	
08:30			30	22	52		20:30			15	35	50	
08:45			49	173 29 100	78 273		20:45			21	74 10 117	31 191	
09:00			25	25	50		21:00			11	21	32	
09:15			17	24	41		21:15			21	12	33	
09:30			30	26	56		21:30			20	18	38	
09:45			30	102 25 100	55 202		21:45			20	72 13 64	33 136	
10:00			26	18	44		22:00			9	32	41	
10:15			29	19	48		22:15			10	25	35	
10:30			19	24	43		22:30			7	13	20	
10:45			20	94 34 95	54 189		22:45			10	36 9 79	19 115	
11:00			34	31	65		23:00			9	7	16	
11:15			32	33	65		23:15			6	17	23	
11:30			32	27	59		23:30			7	7	14	
11:45			30	128 31 122	61 250		23:45			4	26 9 40	13 66	
TOTALS			961	718	1679		TOTALS			2748	1448	4196	
SPLIT %			57.2%	42.8%	28.6%		SPLIT %			65.5%	34.5%	71.4%	

DAILY TOTALS					NB	SB					EB	WB	Total
					0	0					3,709	2,166	5,875
AM Peak Hour			07:15	11:45	07:15		PM Peak Hour			16:30	16:15	16:30	
AM Pk Volume			197	143	306		PM Pk Volume			614	186	797	
Pk Hr Factor			0.912	0.941	0.956		Pk Hr Factor			0.965	0.715	0.890	
7 - 9 Volume	0	0	350	194	544		4 - 6 Volume	0	0	1159	318	1477	
7 - 9 Peak Hour			07:15	07:15	07:15		4 - 6 Peak Hour			16:30	16:15	16:30	
7 - 9 Pk Volume	0	0	197	109	306		4 - 6 Pk Volume	0	0	614	186	797	
Pk Hr Factor	0.905	0.900	0.912	0.973	0.956		Pk Hr Factor	0.900	0.900	0.965	0.715	0.890	

Attachment 4: Spot Speed Sample Triggs Street: Eastern Avenue to East of McDonnell Ave

City of Commerce Public Works and Engineering											
Street Name: <u>TRIGGS STREET</u>											
Limits: <u>EASTERN AVENUE to EAST OF MCDONNELL AVENUE</u>											
Radar Survey Sheet											
<u>X=West / =East</u>											
	5	10	15	20	25	30	35	40	#	%ea	cum. %
45											
40											
35									2	1.8%	100%
									3	2.7%	98.2%
									5	4.4%	95.6%
									6	5.3%	91.2%
30									8	7.1%	85.8%
									9	8.0%	78.8%
									12	10.6%	70.8%
									17	15.0%	60.2%
									15	13.3%	45.1%
25									17	15.0%	31.9%
									11	9.7%	16.8%
									7	6.2%	7.1%
									1	0.9%	0.9%
20											
15											
10											
5											
0											
Total Samples									113		

85th Percentile Speed: <u>29.9</u>	Date of Survey: <u>4/25/2019</u>	Start Time: <u>9:00</u>
50th Percentile Speed: <u>26.3</u>	Weather: <u>Clear</u>	End Time: <u>10:00</u>
15th Percentile Speed: <u>23.8</u>	Road Condition: <u>Fair some Crac</u>	Posted Speed: <u>25</u>
10 MPH Pace: <u>23-32</u>	Street Class.:	
Number in Pace: <u>107</u>	Observer: <u>BR</u>	
Percent in Pace: <u>94.7%</u>	Conditions not Apparent: <u>No Parking Thurs for Street Sweeping</u>	

Attachment 5: City of Commerce Speed Hump Policy

EXHIBIT 1

Page 1 of 15



CITY OF COMMERCE

PUBLIC WORKS & DEVELOPMENT SERVICES DEPARTMENT

Speed Hump Information & Application Forms

Contents

- **Information Sheet**
- **Application Form**
- **Petition Form**
- **Traffic Calming Policy**

For More Information, Please Contact:

*City of Commerce
Public Works & Development Services Department
Commerce, CA 90040*

Phone: (323) 722-4805

(As Adopted by Mayor and City Council on _____)

Attachment 5: City of Commerce Speed Hump Policy (2)

EXHIBIT 1

Page 2 of 15

City of Commerce
Public Works & Development Services Department
Traffic Calming Policy: Speed Humps

GENERAL POLICY STATEMENT

The City of Commerce (City) is committed to policies and actions that can foster and promote traffic calming measures whenever necessary to maximize pedestrian safety, to minimize nonessential vehicular traffic on residential streets, and/or to slow vehicles to an appropriate speed. One possible means to accomplish these three goals is a "roadway vertical deflection device" which is commonly known as a *SPEED HUMP*.

Speed humps, rumble strips, etc., are all considered "traffic calming" devices.

Also included in this speed hump policy is the installation of "rumble strips," which are a series of raised strips, markers, or buttons across a road, changing the noise a vehicle's tires make on the surface, thereby warning drivers of speed restrictions. The installation policy of these rumble strips will coincide with the installation policy of speed humps, as described in this speed hump policy, and ultimately, City staff will make the final determination as to which traffic calming device should be installed.

This speed hump policy is primarily aimed for installation of speed humps in residential neighborhoods. For industrial and commercially zoned areas, this same policy can be also implemented. However, City staff may determine after careful and procedural (i.e., engineering) analysis that speed humps should be installed in such industrial and commercially zoned areas due to prevailing safety concerns.

As a practical matter, the City reserves the right to install or remove any traffic calming device, without public approval, if engineering or procedural analysis demonstrates that such action is warranted, and that it is in the interest of public safety.

Speed humps and other pavement undulations are not approved traffic-control devices as defined in the *California Manual on Uniform Traffic Control Devices* (CA MUTCD), the official document establishing which roadway devices may be readily installed on public streets. Instead, a speed hump is considered to be a geometric "design feature" within the roadway that must be designed, installed and maintained based on prudent engineering judgment and supported by a sufficient study of its need--to avoid property damage, personal injury or other possible civil liabilities. Therefore, all pertinent federal and state laws governing roadway safety will be considered in the design and positioning of any speed hump or other traffic calming measures.

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ADMINISTRATIVE AUTHORITY

1. The Public Works & Development Services Department (Department) is responsible for maintaining a list of locations where members of the public have requested the installation of speed humps. The list includes the specific street location, the name, address and phone number of the requestor, and the date of the request.
2. The Department is given the authority to conduct engineering studies and to provide technical engineering advice and services to other City departments, commissions and agencies. Such services, *upon the recommendation of the Traffic Commission and approval of the City Council*, can include traffic studies and the design, installation and maintenance of City streets, signals, signs, street lighting and other traffic devices. In addition to having the to install and operate official traffic control devices, the Department may place and maintain additional traffic control devices deemed necessary to regulate traffic in a safe and orderly manner under State Law, to guide and warn traffic, and to remove hazards to life or property.
3. Pursuant to this policy, the Department will study, assess, qualify and carry out the installation of speed humps based on the *Eligibility Criteria* specified herein, including other possible complementary traffic calming devices to mitigate any potential adverse impacts resulting from such installation.

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DEFINITIONS

The following are definitions or explanations of terminology used in this report.

- **Americans with Disabilities Act (ADA)** is federal legislation that mandates the provision of access while restricting impediments for disabled persons and establishes many criteria and standards for such access.
- **Average Daily Traffic (ADT)** is the total number of vehicles that travel (both directions combined) along a roadway in a typical 24-hour period, usually counted on a midweek day.
- **Collector Street** is a roadway that provides access between arterial (major) streets and local streets, typically with access to abutting properties. The Circulation Element of the Commerce General Plan identifies which streets are classified as arterials.
- **Gutter Running** describes the situation where motorists purposely drive close to the gutter so the right-side wheels (nearest the curb) miss the end of the speed hump. This is often done due to the perception of some motorists that, since fewer wheels cross over the speed hump, they do not need to slow for the speed hump.
- **Local Street** is a roadway that serves individual residential and commercial blocks with direct access to abutting properties. The Circulation Element of the Commerce General Plan identifies local streets.
- **National Pollutant Discharge Elimination System (NPDES)** is a program that addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. Created in 1972 by the Clean Water Act, the NPDES permit program is authorized to state governments by the Environmental Protection Agency (EPA).
- **Prima Facie Speed Limits** are speed limits that are automatically established by law based on roadway conditions and therefore do not require signs for enforcement. Examples include 25 miles-per-hour limits in school zones when children are present or on local streets in residential neighborhoods, and 15 miles-per-hour limits in alleys or at railroad crossings with limited visibility.
- **Speed (85th Percentile)** is a speed measurement where 85 percent of the individually recorded vehicle speeds on the street are at or below this measurement, and 15 percent of the recorded speeds are above this measurement.
- **Speed hump** is a moderately elevated segment of roadway pavement intended to reduce the speed of vehicles crossing over it. Sloping upward, a speed hump is usually elevated about 3 or 4 inches before it slopes downward to the original street level. The overall crossing length of a speed hump is about 12 feet wide. (Shorter, steeper speed bumps are used in private parking lots but are too extreme an obstacle for use on a public street.)

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ELIGIBILITY CRITERIA

The Department will determine the streets that are eligible for speed humps based on site and roadway conditions, traffic conditions and proper engineering principles including, but not limited to, the following:

1. The street must be functionally classified as a local street. The street cannot be designated a collector street or higher classification.
2. The street should be primarily residential in nature, but streets in commercially or industrially zoned areas can be eligible for speed humps, consistent with engineering analysis and safety concerns.
3. The street should not be a truck, transit (bus) route, or emergency service route.
4. The street does not have more than one traffic lane in each direction.
5. The street should have a minimum length of at least 500 feet, preferably 750 feet.
6. The street must have a posted or prima facie speed limit not exceeding 25 miles-per-hour.
7. The street must have a minimum ADT volume of 1,000 vehicles per day and a maximum ADT volume of 3,000 vehicles per day.
8. The street must have adequate drainage and ADA access at street entrances and intersections.
9. The street must have roadway pavement, curbs, gutters, adjoining parkways and sidewalks in good condition.
10. The street cannot have any alignment, grade or sight-distance problems that would be affected or created by speed humps.

ADDITIONAL STUDIES

The Department may also propose and commission a speed study, compliant with the CA MUTCD, to determine the prevailing speed on the subject street for speed humps. Typically, the 85th percentile speed on the street must exceed the speed limit by at least 5 miles-per-hour in a given 24-hour period.

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DETERMINATION PROCEDURES

The Department will make a determination of eligibility based on pertinent traffic studies and data. The procedures for such determination are as follows:

1. The Department maintains a list of locations where property residents (owners) have requested speed humps to be installed. Requests may be made by telephone, e-mail or letter and must include the requestor's name, address, and daytime telephone number. The list will include the date each request is added to the list.
2. Annually, based on available funding for speed humps, the Department will review the list, evaluate the requested locations and prioritize a fundable number of those locations that may qualify. This smaller priority list will subsequently be presented to the City of Commerce Traffic Commission for approval as the Candidate Street list. The selection of requested locations for the priority list may utilize any or all of the following criteria:
 - Traffic volume
 - Bus (non-transit) and truck traffic
 - Traffic speeds
 - Land uses along the street
 - Speed-related accidents (reported)
 - Proximity of schools and parks
 - Vehicle-pedestrian accidents (reported)
 - Evidence of support by affected residents
 - Length of street and street alignment & design
 - Availability of alternative traffic calming means

Note: the date a request is submitted will not be a factor in determining the priority of any location.

3. From the Candidate Street list, the requestors will be notified that they must submit a formal application and a petition signed by a minimum of $\frac{2}{3}$ (67%) of the residents on the subject block and any other residents on the subject street within 250 feet of the probable speed hump location(s) as determined by the Department. Property ownership may be verified with the Los Angeles County Tax Rolls, and the actual property owners will be notified.
4. If the Traffic Commission has approved more than one block length as the candidate street, each block will be studied individually and separate petitions will be required for each block length (to assist in identifying if there are differing sentiments for speed humps on individual blocks).
5. Upon receipt of the application and petition(s) with sufficient valid property resident (owner) signatures, the Department will conduct a detailed study (or studies) of the location. The type, number and extent of the studies will be determined by the Director of the Department and can vary based upon the particular circumstances of each candidate location. Such studies may include:

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- a. **Accident Analysis.** Analysis of accidents before and after the installation of speed humps may be conducted to determine if accident trends justify requests for speed humps.
- b. **Emergency, Bus Service & Refuse Collection Analysis.** Emergency service providers (police, fire, paramedics) and bus service providers should review speed hump locations prior to installation to assess any impacts on response times, need to alter response routes, and availability of alternative response routes. Comparable analysis may be appropriate for such non-emergency service providers as refuse collection or bus service to determine if speed humps will impact these services.
- c. **On-site Observations.** Prior to speed hump installation and at selected times thereafter, observations may be made to determine motorists' behavior patterns and any unusual operating conditions (such as potential for gutter running). Observations should be made both during the day and at night.
- d. **Resident and Driver Surveys.** Prior to speed hump installation and at selected times thereafter, it may be beneficial to survey residents along the subject street and other affected streets to assess their concerns and perceptions of speed hump effectiveness in slowing and/or diverting traffic. Motorists continuing to travel the street may also be selectively surveyed to assess their opinions.
- e. **Speed Studies.** Speed studies may be made on the street prior to speed hump installation. After installation, speed studies should then be performed at a distance in front of the speed hump, at the speed hump, and at a distance after the speed hump to determine the overall impact on vehicle speeds.
- f. **Stop Sign Obedience.** If there is a bad compliance rate of motorists stopping at stop sign(s) on a street, observations may be made prior to and after speed hump installation to see if there is any improvement in stop sign compliance after installation.
- g. **Traffic Diversion Studies.** Prior to installation, a study should be made of alternative routes that may be taken by motorists to avoid the speed hump(s) and the potential impact on the alternative route streets. If severe impacts are anticipated, the eligibility of the speed hump location(s) may need to be reconsidered. After installation, actual shifts in traffic routes may be identified by increased traffic volume on the alternative routes.
- h. **Travel Time Studies.** If there is a potential that speed humps – particularly in multiples – may contribute to delaying traffic movement and/or increase congestion, it may be beneficial to perform before and after studies of travel times along the affected street(s).
- i. **Traffic Volume Studies.** Traffic volume counts may be made on the subject street and on those streets where traffic diversion may be expected. Such counts may be made prior to speed hump installation and afterwards when traffic patterns have stabilized to determine the magnitude of any volume increases or decreases.

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6. The Department will prepare a determination of the total design, engineering and installation costs and will determine the funding sources to finance the cost of the speed hump(s).
7. Following completion of the study (studies) of a candidate location and the determination is made by the Director of the Department that the location meets applicable criteria, and that the petition exhibits sufficient property (resident) owner signatures, and that the location will be submitted to the Commerce City Council for final approval prior to installation. If a location fails to meet the criteria, the requestor (contact person) will be notified with an explanation as to why speed hump(s) are not warranted, and another location will be selected from the Candidate Street list and the requestor for this new location will be notified to commence the application process.

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SPEED HUMPS INSTALLATION AND MAINTENANCE STANDARD

1. **Property Resident Approval.** A speed hump shall not be placed within 35 feet of any property edge where the resident of the subject property failed to endorse the petition or had specifically submitted a written objection to the speed hump.
2. **Spacing.** Speed humps should not be spaced closer than 250 feet. A speed hump should not be placed within 250 feet of a signalized intersection or a stop sign, or within 100 feet of any uncontrolled intersection or alley intersection. A speed hump shall never be installed within any intersection.
3. **Conflicts.** A speed hump should not be installed if it conflicts or interferes with:
 - a. Drainage features including gutters, channels, drains, catch basins and manholes.
 - b. Compliance with NPDES regulations for storm water run-off.
 - c. Fire hydrants, water valves, water meters, utility manholes or other utility facilities.
 - d. Traffic control devices, including in-pavement signal detector devices.
 - e. Driveways, crosswalks, ramps and/or other ADA facilities/regulations.
 - f. Bicycle lanes.
 - g. Horizontal or vertical curves in the street alignment or street profile.
4. **Roadway Edge.** A speed hump should not extend across the full width of the roadway (curb-to-curb) to permit unobstructed water flow along the curb and gutter. The end of the speed hump should be separated from the curb a distance sufficient to permit street-sweeping machinery to pass along the curb and gutter without affecting the operation of the street-sweeper and/or without causing swept debris to be left in the roadway. Each end of the speed hump must taper at a sufficiently low angle so that it will not affect the down stroke of a passing bicycle pedal.
5. **Installation Angle.** A speed hump must be installed exactly at a right angle to the vehicular path of travel.
6. **Pavement Markings.** Speed humps will be painted with distinctive painted markings so as to be readily visible to approaching vehicles.
7. **Signs.** Speed hump signs whose design and locations are in compliance with the CA MUTCD shall be installed to provide appropriate forewarning of the presence and location of speed humps to approaching vehicles. Additional sign plates should be installed to indicate the recommended crossing speed to educate motorists when the speed humps are initially installed.
8. **On-street Parking.** Care should be taken to ensure vehicles parked on streets do not diminish the effectiveness of signs and/or pavement markings. The potential for "gutter running" should be considered in locating a speed hump if parking is prohibited along the curb, either permanently or for limited times (e.g. street-sweeping). On the other hand, curbside parking may be restricted or prohibited in the vicinity of a speed hump if parked vehicles are at an increased risk of being damaged by vehicles crossing the speed hump.

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9. **Street Lighting.** Where sight distance is less than desirable and/or to improve nighttime visibility, speed hump locations should be selected with existing or planned street lighting.
10. **Pedestrian Crossings.** The positioning of a speed hump must fully comply with ADA regulations for pedestrian walkways and crosswalks. If mid-block pedestrian crossings are planned, it may be appropriate to coordinate their design with speed humps since vehicle speeds will generally be slower at speed hump crossings. The speed hump could be installed directly adjacent to the crosswalk or the crosswalk could be placed upon the speed hump. Appropriate pedestrian crossing signs need to be installed with the speed hump warning signs.
11. **Construction Materials.** A speed hump should be constructed of such materials with sufficient strength and durability as concrete or asphalt-composite materials. Other synthetic materials (e.g., recycled rubber products) should be used with caution that they are not susceptible to deformation or wear/deterioration and that they can be adequately secured or anchored to the roadway.
12. **Construction Procedures.** The construction accuracy of the speed hump profile must be maintained to ensure that the desired dimensions are attained within reasonable tolerances to avoid vehicle damage or ineffective speed control. Road surfaces must be excavated, especially at the tapering edges and ends of the speed hump to prevent "spalling" (break up or chipping). Speed humps shall not be installed on streets in need of major repairs, resurfacing improvements or reconstruction; nor shall speed humps be installed 12 months prior to any scheduled roadway repairs, resurfacing or reconstruction, or utility excavations within the roadway. If such work is planned, speed hump installation should be incorporated into the scheduled repairs or reconstruction projects.
13. **Maintenance.** Care should be taken in the initial installation and inspection of a speed hump to ensure that any edge raveling and profile deformation do not exceed established tolerances. Regularly scheduled inspections and maintenance should be performed to maintain the appropriate design relationship between the roadway surface and the speed hump to enable the speed hump to continue to perform its intended purpose. Speed hump markings need to be regularly monitored and refreshed to maintain high visibility to motorists.

SPEED HUMP REMOVAL CRITERIA

Following an adequate review and analysis period, a speed hump can be removed if:

1. A petition is received by the Director bearing the signatures of a super-majority ($\frac{2}{3}$ or 67%) or more of the property residents within the subject block length where the speed hump is located.
2. The Director determines that traffic circulation and public safety concerns would justify the removal of the speed hump.

Any requested or proposed removal pursuant to this policy shall require the approval of the City Council. The temporary removal of a speed hump to permit the reconstruction of the speed hump or the reconstruction or resurfacing of the street, provided that the speed hump will be restored thereafter, is exempt from requiring City Council approval.

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City of Commerce

Public Works & Development

Services Department

Speed Hump Application Form

Speed Hump Application

This is an application for a **speed hump study only**. The location specified below has been selected by the Commerce Traffic Commission as a candidate site for one or more speed humps, subject to further study and subject to approval by property residents (owners). Each application must contain the completed information as indicated in both Part 1 and Part 2 of this application form. This application will be processed according to the procedures detailed in the Speed Hump Policies and Procedures.

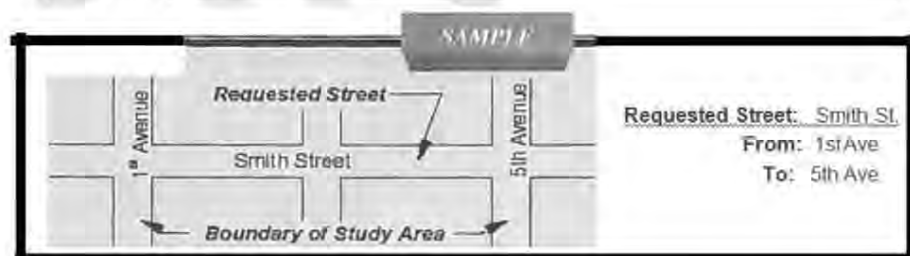
Part 1- Street Study Information

This application must identify the candidate street and the intersecting streets at each end of the subject candidate street. (Do not use house number ranges.) If the Traffic Commission has approved more than one block length as the candidate street, each block will be studied individually and separate petitions will be required for each block length. As a result, one block length may be approved for speed hump(s) while the next block length may not qualify.

Requested Street: _____

From (cross street): _____

To (cross street): _____



PROCEDURAL INFORMATION:

The Commerce Public Works & Development Services Department maintains a list of requests for speed humps. From that list, the Traffic Commission annually selects a shorter list of candidate locations where speed humps may be installed, subject to further evaluation and study. The City of Commerce cannot install all candidate locations for several reasons including:

- o Insufficient support by property residents (owners) along the street.
- o Limited City funds to install all speed humps.
- o Street conditions (drainage, street length, street profile, sight lines, etc.) will not permit an installation.
- o Traffic volume or traffic speeds do not warrant a speed hump.

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ATTACHMENT: PUBLIC REQUEST FORM

PETITION REQUIREMENT:

If the study of the candidate street shows that one or more speed humps would be warranted, you will be notified of this determination and of the specific proposed speed hump location(s). You will then be asked to obtain petitions signed by a minimum of $\frac{2}{3}$ or 67% of the property residents (owners) on the subject block length (one signature per property) and of any property residents (owners) on the subject street within 250 feet of any specific speed hump location. Signatures of the residents (owners) of every property located within 25 feet of each proposed speed hump is required.

Part 2 - Contact Person Information

Each application must provide a contact person who is a property resident (owner) and resides on the subject length of candidate street. The contact person will receive all correspondence and will be responsible for obtaining and providing evidence of support (petition) when requested.

Name: _____

Street Address: _____

Daytime Phone: _____

Evening Phone: _____

Cellular Phone: _____

e-mail address: _____

Authorization:

I have read the City's Speed Hump Policy and understand that Speed Humps may delay emergency response times by Police, Fire and Paramedic Services to my neighborhood, and may cause excessive vehicular noise and damage to my street.

I agree to be the neighborhood contact person for this request.

Signature: _____ Date: _____

Attachment 5: City of Commerce Speed Hump Policy (13)

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City of Commerce

Public Works & Development
Services Department
Speed Hump Information Sheet

Speed Humps

A Speed Hump is a moderately elevated segment of roadway pavement intended to reduce the speed of vehicles crossing over it. Sloping upward, a speed hump is usually elevated about 3 or 4 inches before it slopes downward to the original street level. The overall crossing length of a speed hump is about 12 feet wide. (Shorter speed BUMPS are used in private parking lots but are too extreme an obstacle for use on a public street.)

Disadvantages

While designed to reduce speeds, speed humps are known to have some disadvantages:

- Speed Humps may increase emergency response times of fire, police and paramedic vehicles.
- Speed Humps may damage vehicles, and injure occupants.
- Speed Humps may increase traffic noise in the immediate vicinity due to braking and acceleration noise, noisy suspensions, and "bottoming-out" (hitting) the humps.
- Speed Humps may divert traffic onto neighboring streets.
- Speed Humps may encourage drivers to swerve as they try to drive beyond the ends* of the speed humps.
- Speed Humps may accelerate road wear and deterioration of the pavement.

*Speed Humps cannot extend to the curbs due to gutter drainage and street-sweeping needs.

Eligible Street¹

A street must meet criteria to be considered for a Speed Hump, including:

- The street is not a designated arterial or collector roadway.
- The street is not designated/posted for speeds greater than 25 m.p.h. and more than 15 percent of the vehicles exceed the speed limit by at least 5 m.p.h. in 24 hours.
- The street provides access to fronting residential properties, schools, hospitals, parks and the like.
- The street is not a commercial or industrial street.
- The street has a traffic volume of less than 3,000 vehicles per day.
- The street does not have more than one traffic lane in each direction.
- The street has no alignment, grades or sight-distance problems that would be affected or created by speed humps.

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Placement Criteria

The Commerce Public Works & Development Services Department (Department) will determine the Speed Hump locations based on proper engineering principles, which can include the following:

- Speed Humps are usually not spaced closer than 250 feet (400 to 600 feet is typical).
- A Speed Hump is not placed in front of a driveway, ramp or crosswalk, or within an intersection.
- A Speed Hump should not be placed in front of a property whose resident (owner) objects to such placement.
- Speed Humps should not be placed within 250 feet of a signalized intersection or STOP sign.
- A Speed Hump cannot interfere with any sort of handicapped-access (ADA) needs or requirements.
- Curbside parking may be restricted or prohibited within the vicinity of a Speed Hump.

Procedures to Request Speed Hump

- The Department maintains a list of locations where residents have requested Speed Humps to be installed. Requests may be made by letter, phone or email and must include the requestor's name, address and daytime telephone number. (Placement on this list does NOT initiate the installation of a Speed Hump).
- Each year, based on available funding for Speed Humps, the Department will review the list, evaluate the requested locations and prioritize those locations that may qualify (see below). The smaller priority list will be presented to the Commerce Traffic Commission for approval as the Candidate Street List.
- From the Candidate Street List, the requestors will be notified that they must submit a formal application and a petition signed by $\frac{2}{3}$ or 67% of the property residents (owners) on the subject block and any other property residents (owners) on the subject street within 250 feet of the proposed Speed Hump location(s). Upon receipt of the application, the Department will conduct a detailed study of the location. If the location meets applicable criteria, and the petition bears sufficient property resident (owner) signatures, the location will be submitted to the Mayor and City Council for final approval prior to installation. (If a location fails to meet any of the criteria, another location will be selected from the Candidate Street List).

Prioritization of Location

The Department will prioritize requested locations according to the following ranking criteria:

- Traffic volume
- Traffic speeds
- Speed-related vehicular accidents (reported)
- Vehicle-pedestrian accidents (reported)
- Bus and truck traffic
- Land uses along the street
- Proximity of schools and parks
- Evidence of support by affected property residents (owners)

Attachment 5: City of Commerce Speed Hump Policy (15)

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City of Commerce

Public Works & Development

Services Department

Speed Hump Petition Form

Proposed Location for Speed Hump(s):

On (Street Name): _____

From (Cross Street): _____

To (Cross Street): _____

An application has been received by the Commerce Public Works & Development Services Department to install speed hump(s) on the portion of the street identified above. In order to proceed with this application, $\frac{2}{3}$ or 67% of all affected (fronting) property residents (owners) must give their consent (one signature per property).

The speed humps are tentatively proposed to be located in front of the following addresses, but alternative location(s) may be proposed due to property residents' (owners') objections:

Before considering signing this petition, please read the accompanying information regarding speed humps and the policies and procedures that pertain to this request. Please call the Public Works & Development Services Department if you have any questions at: (323) 722-4805.

Property Resident (Owner) [Please Print]:

Name: _____

Street Address: _____

City/Zip Code: _____

Phone: _____

I hereby attest that I am the resident or owner of the property identified above. I have read the City's Speed Hump Program Information Sheet and understand that Speed Humps may delay emergency response times by Police, Fire and Paramedic services to my neighborhood, and may cause increased vehicular noise and damage to my street.

Thereby approve the installation of speed humps on my street.

Signature: _____ Date: _____

YOU MAY MAIL OR HAND DELIVER YOUR SIGNED CONSENT FORM TO YOUR NEIGHBORHOOD REPRESENTATIVE OR TO: City of Commerce, Public Works & Development Services Department, 2535 Commerce Way, CA 90040

Attachment 6: City of Los Angeles Department of Transportation Speed Hump Evaluation Guidelines (1)

2/3/2017

City of Los Angeles Department of Transportation SPEED HUMP EVALUATION GUIDELINES

The installation of speed humps is intended to reduce incidences of excessive vehicular speeding on residential roadways. These guidelines shall be used to determine whether or not speed humps may be installed based on criteria for justification, feasibility, effectiveness, and impact.

Speed humps may be installed as part of a variety of programs or projects, including: the Citywide Speed Hump Program, a comprehensive neighborhood traffic management plan, an approved land development mitigation project, or a capital improvement project.

These guidelines may be updated and modified periodically to address community, safety, and street operation needs. The Department of Transportation is continuing to study the effectiveness of its speed hump installations and may experiment with alternate designs and applications.

A speed hump is deemed appropriate and feasible for installation when all of the following conditions have been properly considered:

CRITERIA	DESCRIPTION
Street Type	Speed humps shall be installed only on designated residential Local or Collector Streets, as shown on the Highways and Freeways Element of the General Plan for the City of Los Angeles, when they meet all of the other approval guidelines. Speed humps should not be installed in front of commercial property. Speed humps should not be installed in alleys.
Traffic Volume	On streets with traffic volumes between 1,000 and 4,000 vehicles per day, 12-foot-long speed humps may be recommended. The 22-foot-long speed hump may be recommended on streets with volumes greater than 4,000 but no more than 10,000 vehicles per day. Additional traffic volume studies and a circulation analysis may be conducted for streets with traffic volumes between 4,000 and 10,000 vehicles, in order to assess the potential impacts of traffic diversion to surrounding streets.
Roadway Visibility	Speed humps shall not be installed on street segments with severe vertical or horizontal curves. Speed hump installations shall be visible to oncoming motorists for a minimum of 150 feet.
Roadway Grade	Speed humps shall NOT be installed on a street segment with a roadway grade greater than seven percent. On a street segment with roadway grade of five percent or less, 12-foot long speed humps may be installed. On a street segment with over five percent and up to seven percent of roadway grade, the 22-foot long speed humps may be installed.
Street Drainage	Speed humps should not be installed on streets with drainage gutters that are in the center of the roadway (such as in alleys), or on streets with drainage or flooding problems.
Number of Lanes	Speed humps shall not be installed on roads striped with more than one through lane in each direction.
Study Segment	The length of the study segment should be the distance between controls such as stop signs and traffic signals that are existing or imminent (authorized but pending installation) and not less than 600 feet. Unless it is at least 1,000 feet long, the study segment should not terminate in a cul-de-sac or street closure at either end.

Attachment 6: City of Los Angeles Department of Transportation Speed Hump Evaluation Guidelines (2)

2/3/2017

CRITERIA	DESCRIPTION
Street Use	Speed humps shall not be installed on designated truck or transit routes or on any street identified as a primary emergency route by any emergency response agency. Speed humps shall not be installed immediately adjacent to a hospital, fire station, or police facility. Possible secondary emergency routes (usually the primary collector streets through residential neighborhoods) that are at least 2,000 feet long and without any adjacent parallel route should be identified and impact to emergency response vehicles should be assessed with LAFD.
Speed Limit	Speed humps should not be installed on streets with speed limits greater than thirty (30) miles per hour as determined in accordance with State law.
Critical Speed	Speed humps may be installed only on street segments where the measured 85 th percentile speed (the speed at or below which 85% of vehicles travel) is greater than 30 miles per hour on streets with a speed limit of 25 miles per hour or greater than 35 miles per hour on streets with a speed limit of 30 miles per hour.
Physical Conditions	Speed humps shall not be installed in front of driveways, over underground access covers, or adjacent to catch basins or drainage structures.
Other Considerations	The Los Angeles Department of Transportation will make an engineering evaluation of all pertinent safety factors, including any not specifically addressed here before making a determination on the installation of speed humps.

Attachment 7: City of Montebello Speed Hump Evaluation Guidelines (1)



City of Montebello Speed Hump/Speed Cushion Policy

Engineering Department
Contact Roberta Lacayo (323) 887-1200 ext. 460 rlacayo@cityofmontebello.com

Objective: When less restrictive means, such as traffic signs and speed enforcement, have not been effective, speed humps/speed cushions may be considered on roadways with the following characteristics:

1. Local residential street with no more than two travel lanes.
2. Roadway is 40 feet wide or less.
3. There are no curves that would make it difficult for drivers to see the speed humps or cushions as they approach them.
4. Traffic volumes between 500 and 2,000 vehicles per day.
5. The roadway has a posted speed limit of 30 mph or less.
6. Actual measured 85th percentile speeds greater than 35 mph on roadways with a speed limit of 25 mph or 40 mph on roadways with a posted or prima facie speed limit of 30 mph.
7. The roadway grade is 5% or less.
8. The roadway is not a public transit route.
9. Petition must show at least 75% of the fronting residents in favor of installation.
10. The Traffic and Safety Commission must review and approved the installation.

Advantages and Disadvantages of Speed Humps/Speed Cushions

Advantages	Disadvantages
<ol style="list-style-type: none">1. Potential to reduce traffic speeds2. Potential to reduce traffic volumes3. Can be used to reduce cut-through traffic.4. Self-enforcing5. Minimal impact to on-street parking6. Minimum maintenance7. Cushions OK for emergency vehicles	<ol style="list-style-type: none">1. Care needed if placed on transit routes.2. May transfer traffic elsewhere.3. Not aesthetically pleasing.4. May cause vehicles to encroach into bicycle lanes5. Not a cure-all to speeding issues.

These guidelines are largely based on those of Los Angeles County and the City of Commerce.

Attachment 7: City of Montebello Speed Hump Evaluation Guidelines (2)



City of Montebello Speed Hump/Speed Cushion PETITION FORM

We the undersigned residents of _____ from

_____ to _____ do hereby
request the City of Montebello to install speed cushions on our street. We have read and
understand the following advantages and disadvantages of installing speed cushions.

Advantages	Disadvantages
<ol style="list-style-type: none"> 1. Potential to reduce traffic speeds 2. Potential to reduce traffic volumes 3. Can be used to reduce cut-through traffic. 4. Self-enforcing 5. Minimal impact to on-street parking 6. Minimum maintenance 7. Cushions OK for emergency vehicles 	<ol style="list-style-type: none"> 1. Care needed if placed on transit routes. 2. May transfer traffic elsewhere. 3. Not aesthetically pleasing. 4. May cause vehicles to encroach into bicycle lanes 5. Not a cure-all to speeding issues.

Additionally, we have read and understand the guidelines listed on the back of this form which
must be presented in order for the City to consider installing speed cushions on our street.

Neighborhood Representative (or Requestor):

Print Name Address Phone Number

PRINT NAME	SIGNATURE	ADDRESS	DATE	PHONE NUMBER

Attachment 7: City of Montebello Speed Hump Evaluation Guidelines (3)

Guidelines for Installing Speed Hump/Speed Cushions

1. Local residential street with no more than two travel lanes.
2. Roadway is 40 feet wide or less.
3. There are no curves that would make it difficult for drivers to see the speed humps or cushions as they approach them.
4. Traffic volumes between 500 and 2,000 vehicles per day.
5. The roadway has a posted speed limit of 30 mph or less.
6. Actual measured 85th percentile speeds greater than 35 mph on roadways with a speed limit of 25 mph or 40 mph on roadways with a posted or prima facie speed limit of 30 mph.
7. The roadway grade is 5% or less.
8. The roadway is not a public transit route.
9. Petition must show at least 75% of the fronting residents in favor of installation.
10. The Traffic and Safety Commission must review and approved the installation.