



CITY OF COMMERCE AGENDA REPORT

Item No. **4**

TO: Traffic Commission

SUBJECT: Traffic Calming Along Ferguson Drive Between Hendricks Avenue and Saybrook Avenue, Saybrook Avenue to Garfield Avenue and Garfield Avenue to East City Limit

MEETING DATE: February 12, 2020

RECOMMENDATIONS:

Recommendation 1: Ferguson Drive Between Hendricks Avenue and Saybrook Avenue

After a thorough review of existing field conditions, traffic volume, accident data and roadside conditions it was determine that the following traffic calming measures could be implemented to improve safety and reduce speeding along Ferguson Drive between Hendricks Avenue and Saybrook Avenue. This segment is not considered a candidate for speed humps. Please refer to **Figure 1: Proposed Recommendations Diagram** for a visual demonstration of proposed conditions.

- 1. Repaint center yellow line and paint white side stripes to visually narrow the travel path along Ferguson Drive between Hendricks Avenue and Saybrook Avenue.**
 - This has been installed along Ferguson Drive as well as other streets that have been considered candidates for traffic calming measures. Painted stripes should be 8' (feet) away from curb on both sides. This will allow for 11' travel lanes.
- 2. Install 2 Speed Feedback signs with 30 mph Speed Limit signs to remind drivers of the posted speed.**

Figure 1: Proposed Recommendations Diagram – Recommendation 1



Recommendation 2: Ferguson Drive Between Saybrook Avenue and Garfield Avenue

Option 1

With the new update implemented for the Speed Hump Policy, Ferguson Drive meets most of the City of Commerce criteria for the installation of speed humps. Speed humps will also function as an effective measure to reduce cut-through traffic. It is recommended that the City of Commerce review the criteria for the installation of speed humps to decide whether this segment would benefit from the installation of a speed hump. This would require agreement from residents as well as transit, police and fire. The cushions could be placed such that large fire trucks wheel base would allow them to clear the speed bumps. Please refer to **Figure 2: Proposed Recommendations Diagram – Recommendation 2 Option 1** for a visual demonstration of proposed conditions.

1. **Paint 30 mph pavement markings – opposite existing 30 mph Speed Limit signs in both directions.**
2. **Repaint center yellow line and paint white side stripes to narrow lanes along Ferguson Drive between Saybrook Avenue and Garfield Avenue.**
 - Painted stripes should be 8' from curb will allow for 10' travel lanes each direction.

3. Install 2 additional 30 mph Speed Limit signs midway with 30 mph pavement markings.
4. Move existing STOP AHEAD pavement marking and sign for WB traffic closer to Saybrook Avenue where there is all-way stop.
5. With resident, transit and emergency approvals install 2 sets of speed cushions on Ferguson Drive between Saybrook Avenue and Garfield Avenue with “Hump” Warning signs, “Speed Humps Ahead” ahead sign and “Hump” pavement legends on both approaches of the speed cushions.

Figure 2: Proposed Recommendations Diagram – Recommendation 2 Option 1

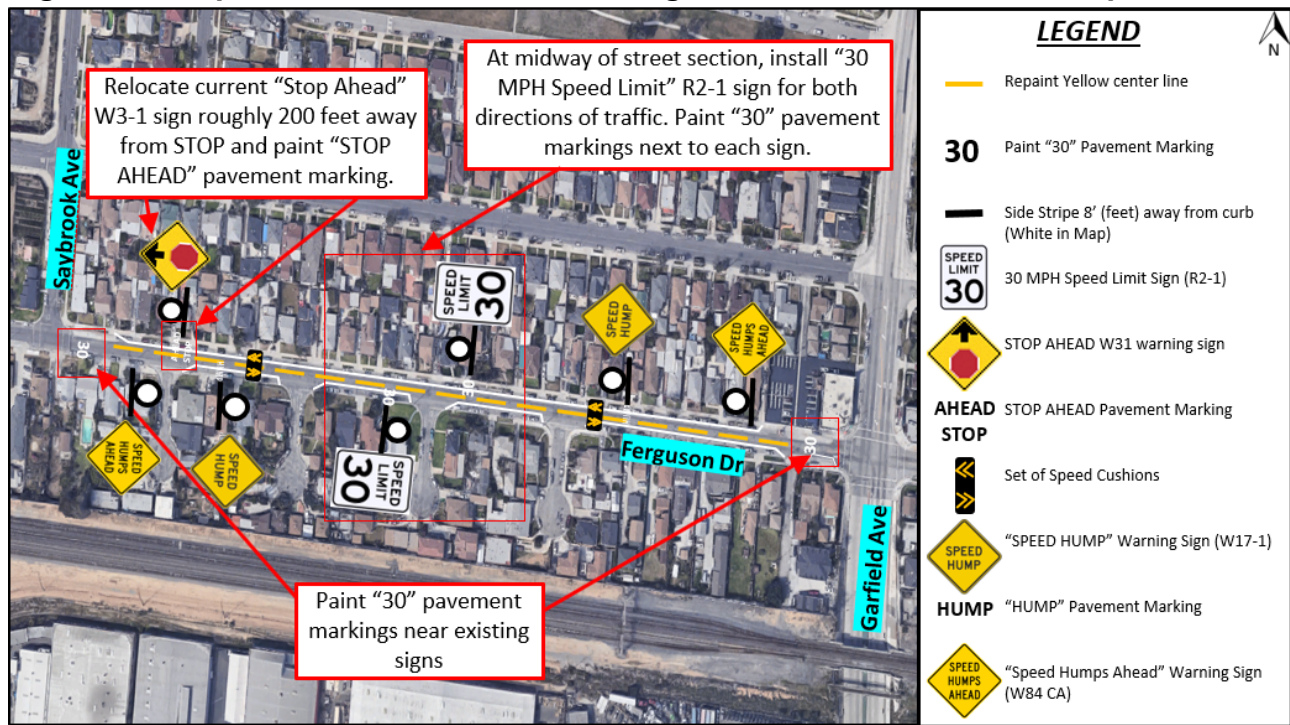
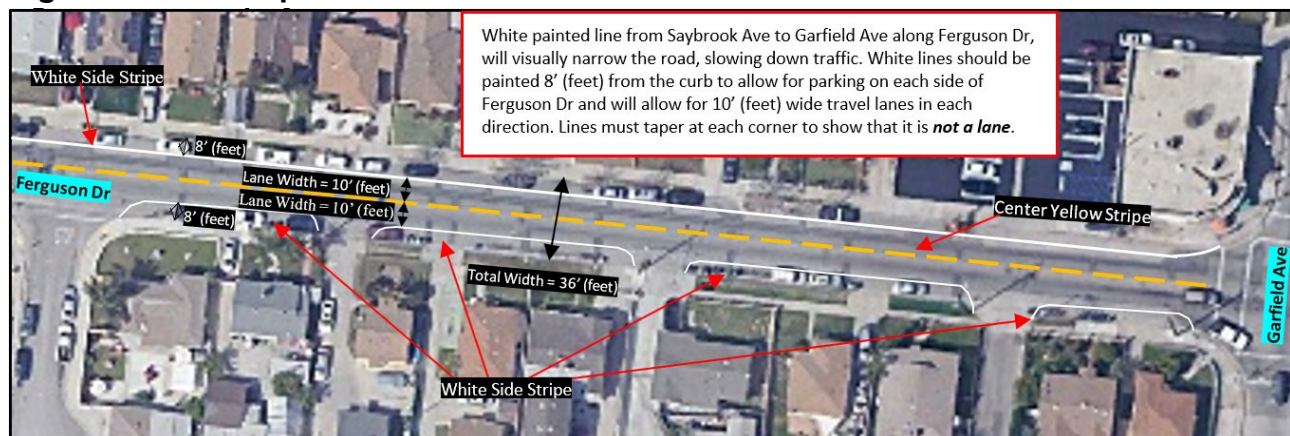


Figure 3: Close-up of Recommendation 2 - Line Item #2



Option 2

Since this segment of Ferguson Drive has a high average daily traffic and serves as a transit (bus) route for the City of Commerce Bus, the city may elect to not install speed humps. If the City elects to not use speed humps, then white side stripes could be installed. These have shown to reduce the 85th percentile speed and it is recommended to paint white side stripes along the segment. Installing additional 30mph signs midway with 30 pavement legends will further remind motorists of the posted speed limit along the segment. Please refer to **Figure 4: Proposed Recommendations Diagram – Option 2** for a visual demonstration of proposed conditions.

1. Paint 30 mph pavement markings – opposite existing 30 mph Speed Limit signs in both directions.
2. Repaint center yellow line and paint white side stripes to narrow lanes along Ferguson Drive between Saybrook Avenue and Garfield Avenue.
 - Painted stripes should be 8' from curb will allow for 10' travel lanes each direction.
3. Install 2 additional 30 mph Speed Limit signs midway with 30 mph pavement markings.
4. Move existing STOP AHEAD pavement marking and sign for WB traffic closer to Saybrook Avenue where it is all-way stop controlled.

Figure 4: Proposed Recommendations Diagram – Recommendation 2 Option 2



Recommendation 3: Ferguson Drive from Garfield Avenue to ECL

Option 1

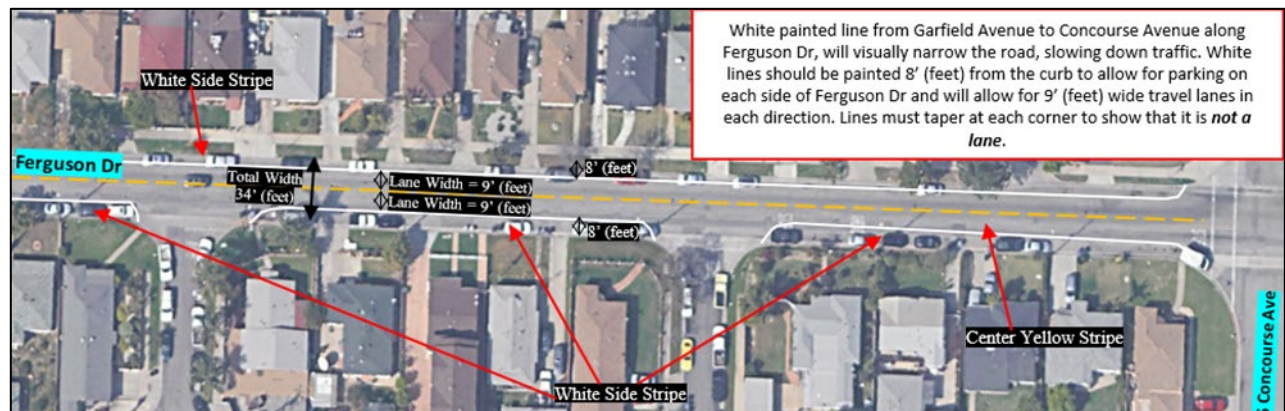
With the new update implemented for the Speed Hump Policy, Ferguson Drive meets all of the City of Commerce criteria for the installation of speed humps. Speed humps will also function as an effective measure to reduce cut-through traffic. It is recommended that the City of Commerce review the criteria for the installation of speed humps to decide whether this segment would benefit from the installation of a speed hump. This would require agreement with residents as well as police and fire. The cushions could be placed such that large fire trucks wheel base would allow them to clear the speed bumps. Please refer to **Figure 5: Proposed Recommendations Diagram – Recommendation 3 Option 1** for a visual demonstration of proposed conditions.

1. **Paint 30 mph pavement markings – opposite existing 30 mph Speed Limit signs in both directions.**
2. **Paint white side stripes to narrow lanes along Ferguson Drive between Garfield Avenue and S Concourse Avenue.**
 - **Painted stripes should be 8' from curb will allow for 10' travel lanes each direction.**
3. **With resident, transit and emergency approvals install 2 sets of speed cushions on Ferguson Drive between Garfield Avenue and ECL with “Hump” Warning signs, “Speed Humps Ahead” ahead sign and “Hump” pavement markings on both approaches of the speed cushions. (approximately 250' apart).**

Figure 5: Proposed Recommendations Diagram – Recommendation 3 Option 1



Figure 6: Close-up of Recommendation 3 - Line Item #2



Option 2

Since this segment of Ferguson Drive has a high average daily traffic, the city may elect to not install speed humps. However, since white sides stripes have been shown to reduce the 85th percentile speed it is recommended to paint white side stripes along the segment. Adding 30 pavement legends next to the 30mph speed limit sign will further remind motorists of the posted speed limit along the segment. Please refer to **Figure 7: Proposed Recommendations Diagram – Recommendation 3 Option 2** for a visual demonstration of proposed conditions.

1. Paint 30 mph pavement markings – opposite existing 30 mph Speed Limit signs in both directions.

2. **Paint white side stripes to narrow lanes along Ferguson Drive between Garfield Avenue and S Concourse Avenue.**
 - Painted stripes should be 8' from curb will allow for 10' travel lanes each direction.

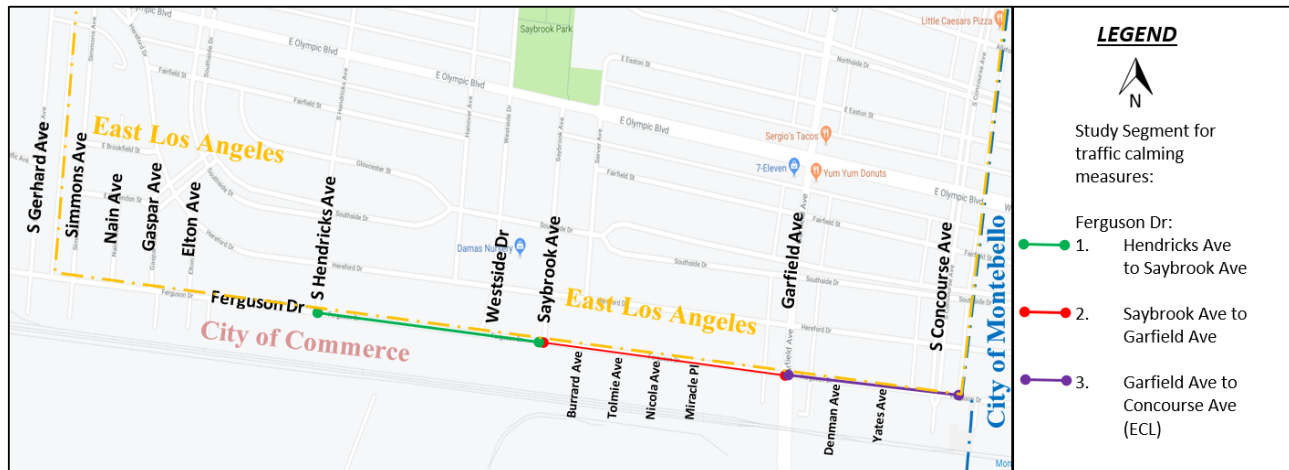
Figure 7: Proposed Recommendations Diagram – Recommendation 3 Option 2



BACKGROUND:

The City has received several requests to reduce the amount and speed of traffic along Ferguson Drive. At Public Works direction, staff has completed a review of the section of Ferguson Drive between Hendricks Avenue to east of Garfield Avenue to determine if this roadway would be a candidate for the installation of traffic calming measures including speed humps. Since the land use along Ferguson Drive changes from residential with some areas with pockets of manufacturing/industrial, Ferguson Drive has been divided into three (3) separate sections. Section one (1): from Hendricks Avenue to Saybrook Avenue, Section two (2): from Saybrook Avenue to Garfield Avenue and Section three (3): from Garfield Avenue to ECL at Concourse Avenue. The locations are depicted in **Figure 8: Vicinity Map** below.

Figure 8: 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)

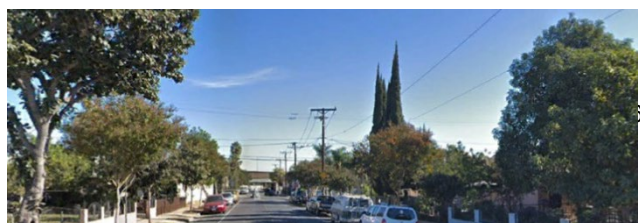
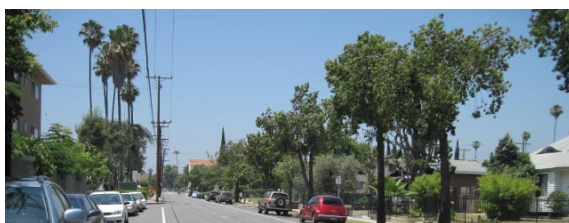
Sign or Plaque	Sign Designation	Section	Conventional Road		Expressway	Freeway	Minimum	Oversized
			Single Lane	Multi-Lane				
Stop	R1-1	2B.05	30 x 30*	36 x 36	36 x 36	—	30 x 30*	48 x 48
Speed Limit	R2-1	2B.13	24 x 30*	30 x 36	36 x 48	48 x 60	18 x 24*	30 x 36

- 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.





- 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.
- 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 and is currently reviewing and modifying the Policy based on current roadway and traffic conditions. The Policy 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 9: Existing Conditions Map



FERGUSON DRIVE:

Segment 1: Hendricks Avenue to Saybrook Avenue

Ferguson Drive is approximately 36-38 feet in width with one lane in each direction with a yellow center dashed line. Ferguson Drive from Hendricks Avenue to Saybrook Avenue is considered a Collector Street with a posted speed limit of 30 MPH. The north side of the sidewalk from Hendricks Avenue to Saybrook Avenue is in LA County. Land use along Segment 1 is mixed use with light manufacturing, light multiple residential and medium multiple residential. Parking is permitted on both sides of the roadway with the exception of street sweeping restrictions. Ferguson Drive at Hendricks Avenue and Saybrook Avenue is STOP controlled in all directions. The segment along Ferguson Drive from Hendricks Avenue to Saybrook Avenue is approximately 1521'(feet). Ferguson Drive serves as a transit (bus) route for the City of Commerce Bus Green Line and Yellow Line, with 3 stops within Segment 1 as shown in **Figure 2: Existing Conditions Map**.

Segment 2: Saybrook Avenue to Garfield Avenue

Ferguson Drive is approximately 36-38 feet in width with one lane in each direction with a yellow center dashed line. Ferguson Drive from Saybrook Avenue to Garfield Avenue is considered a Collector Street with a posted speed limit of 30MPH. The North side of the sidewalk from Saybrook Avenue to Garfield Avenue is in LA County. Land use along Segment 2 is predominantly residential with Single Family Residential units on both sides of the street. Parking is permitted on both sides of the roadway with the exception of street sweeping restriction. Ferguson Drive at Saybrook Avenue is STOP controlled and Ferguson Drive at Garfield Avenue is controlled by a traffic signal. The segment along Ferguson Drive from Saybrook Avenue to Garfield Avenue is approximately 1,634' (feet). Ferguson Drive serves as a transit (bus) route for the City of Commerce Bus Green Line

and Yellow Line, with 3 stops within Segment 2 as shown in **Figure2: Existing Conditions Map**.

Segment 3: Garfield Avenue to ECL Near Concourse Avenue

Ferguson Drive within Segment 3 is approximately 33-34 feet in width with one lane in each direction with a yellow center dashed line. Ferguson Drive from Garfield Avenue to ECL is considered a Collector street with a posted speed limit of 30MPH. The north side of the sidewalk from Garfield Avenue to ECL is in LA County. Land use along Segment 3 is predominantly residential on both sides of the street. Parking is permitted on both sides of the roadway with the exception of street sweeping restrictions. Ferguson Drive at Garfield Avenue is traffic signal controlled and Ferguson Drive at Concourse Avenue, is STOP controlled in all directions. Ferguson Drive, from Garfield Avenue to ECL is approximately 1,088'(feet) as shown in **Figure 2: Existing Conditions Map**.

The houses on the north side all along Ferguson Drive are located in East Los Angeles a part of unincorporated Los Angeles County. However, from assessor maps it looks like the entire street of Ferguson Drive is within the City of Commerce.

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. Additional counts were taken on April 23, 2019. A summary of ADT data is shown in **Table 1: Average Daily Traffic (ADT)**.

Table 1: Average Daily Traffic (ADT)		
<i>Location</i>	<i>Vehicles per Day (vpd)</i> <i>03/21/2019</i>	<i>Vehicles per Day (vpd)</i> <i>04/23/2019</i>
Ferguson Dr between Hendricks Ave and Saybrook Ave	6,317	
Ferguson Dr E/O Nicola Ave		5,264
Ferguson Dr W/O Concourse Ave		3,682

In order to determine the existing ADT for Ferguson Drive, counts were taken on Ferguson Drive between Hendricks Avenue and Saybrook Avenue, Saybrook Avenue and Garfield Avenue and Garfield Avenue to ECL. Ferguson Drive between Hendricks Avenue and Saybrook Avenue, Segment 1, has 6,317 vehicle trips over a 24-hour period. Ferguson Drive between Saybrook Avenue and Garfield Avenue, Segment 2, has 5,264 vehicle trips over a 24-hour period. Ferguson Drive between Garfield Avenue and ECL, Segment 3, has 3,682 vehicle trips over a 24-hour period. The difference in the volume of vehicles traveling along Ferguson Drive, east and west of Garfield Avenue is that most of the traffic is traveling to the north or south via Garfield Avenue which is a major street versus continuing to the City of Montebello on Ferguson Drive which deadens at Vail Avenue.

The City of Montebello has installed several sets of speed humps (4) on Ferguson Drive between Concourse Avenue and Vail Avenue which is east of the City limit.

ACCIDENT INVESTIGATION:

An accident investigation was conducted using the last 5 available years from SWITRS (Statewide Integrated Traffic Records System) records. A total of 12 accidents from 2014 to 2018 were reported on the segment of Ferguson Drive between Saybrook Avenue to Garfield Avenue.

Segment 1 - Ferguson Drive between Hendricks Avenue and Saybrook Avenue

There were no accidents on Ferguson Drive between Hendricks Avenue and Saybrook Avenue from 2014 to 2018.

Segment 2 – Ferguson Drive between Saybrook Avenue and Garfield Avenue

Table 2: Summary of Accident History provides a detailed list of the collisions on Ferguson Drive between Saybrook Avenue and Garfield Avenue.

3 accidents in 2018
5 accidents in 2017
2 accidents in 2016
0 accidents in 2015
2 accidents in 2014

No.	Location	Dist.	Date	Collision Type	Severity	PCF	Factor
1	FERGUSON DR AT GARFIELD AV	60'W	8/24/2018	NOT STATED	5-PDO	WRONG SIDE	WB STOPPED VEH HIT EB STOPPED VEH (X2)
2	FERGUSON DR AT GARFIELD AV	12'W	2/13/2018	REAR END	5-PDO	UNSTATED	EB THRU VEH HIT EB STOPPED VEH
3	FERGUSON DR AT BURRARD AV	100'E	1/6/2018	SIDESWIPE	5-PDO	IMPROP TURN	EB VEH RAN OFF RD HIT EB PARKED VEH (X2)
4	FERGUSON DR AT GARFIELD AV	542'W	11/26/2017	SIDESWIPE	5-PDO	IMPROP TURN	EB THRU VEH HIT EB PARKED VEH (X2)
5	FERGUSON DR AT SAYBROOK AV	75'E	11/10/2017	HEAD ON	5-PDO	UNSTATED	EB THRU VEH HIT WB THRU VEH
6	FERGUSON DR AT NICOLA AV	0	10/3/2017	BROADSIDE	5-PDO	UNSAFE SPEED	WB THRU VEH HIT SB PULLING OUT OF DRIVEWAY VEH
7	FERGUSON DR AT GARFIELD AV	375'W	6/30/2017	BROADSIDE	4-COMP PN	IMPROP TURN	WB U-TURN VEH HIT WB THRU VEH

8	FERGUSON DR AT GARFIELD AV	263'W	5/5/2017	SIDESWIPE	5-PDO	IMPROP TURN	EB THRU VEH HIT EB PARKED VEH
9	FERGUSON DR AT BURRARD AV	84'E	04/21/16	REAR END	5-PDO	IMPROP TURN	EB THRU VEH HIT EB PARKED VEH (X2)
10	FERGUSON DR AT TOLMIE AV	48'W	01/27/16	REAR END	5-PDO	IMPROP TURN	WB THRU VEH HIT WB PARKED VEH
11	FERGUSON DR AT NICOLA AV	36'E	09/14/14	OTHER	5-PDO	STRTNG BCKNG	WB BACKING VEH HIT NB PARKED VEH
12	FERGUSON DR AT NICOLA AV	48'E	03/20/14	SIDESWIPE	5-PDO	STRTNG BCKNG	SB BACKING VEH HIT WB THRU VEH

As seen in **Table 2**, along the study segment out of the 12 accidents that occurred over the 5-year period, 6 accidents involved a vehicle striking a parked car, 2 were head-on accidents and several involved cars that were leaving driveways and were struck by a through traveling vehicle.

Segment 3 – Ferguson Drive from Garfield Avenue to ECL

There were no recorded accidents on Ferguson Drive from Garfield Avenue to ECL from 2014 to 2018.

SPEED SURVEY:

In order to assess the speed at which vehicles are traveling along Ferguson Drive speed samples were taken. A 24-hour speed sample was taken on March 21, 2019 with spot speed samples taken on April 25, 2019. The 85th percentile speed of vehicles along Ferguson Drive between Hendricks Avenue and Saybrook Avenue is at 30 mph while the 85th percentile speed for Segment 2, Ferguson Drive between Saybrook Avenue and Garfield Avenue is at 33.2, and Segment 3, Ferguson Drive between Garfield Avenue and ECL, at 32.4. All three segments have an 85th percentile speed in line with the posted limit. Table 3 below shows the 2019 speed survey results:

Table 3: Speed Survey along Ferguson Drive between Hendricks Avenue and Saybrook Avenue, Saybrook Avenue and Garfield Avenue, and Garfield Avenue and ECL.

	Location	Dir. Of Travel	Date/Time of Survey	85%ile Speed	ADT	Posted Limit MPH
1	Ferguson Drive between Hendricks Avenue and Saybrook Avenue	EB/WB	03/21/2019 (24-hour Period)	30	6,317	30
2	Ferguson Drive between Saybrook Avenue and Garfield Avenue	EB/WB	04/25/2019 (11:00-12:00)	33.2	5,264	30
3	Ferguson Drive between Garfield Avenue and Concourse Avenue (ECL)	EB/WB	04/25/2019 (10:05-10:58)	32.4	3,682	30

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. The Actual crash rate formula is $\# \text{midblock collisions} \times 1,000,000 / \text{ADT} \times \text{Years} \times 365 \times \text{Length}$. For an urban collector street, the expected rate is 1.96. The calculated accident rates for Ferguson Drive between Hendricks Avenue and Saybrook Avenue, Segment 1, and between Garfield Avenue and ECL, Segment 3, is 0 due to the absence of accidents along these segments within the last 5 years. Segment 2, Ferguson Drive between Saybrook Avenue and Garfield Avenue has a 4.34 calculated accident rate which is above the expected rate for a two-lane collector street. This means that the segment is a candidate 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 4**. To note in 2016 the segment included a longer stretch of Ferguson Drive between Gerhart Avenue to ECL.

Table 4: 2016 Citywide Speed Survey Results							
	Location	Dir. Of Travel	Date/Time of Survey	85%ile Speed	ADT	Calculated Acc Rate	Posted Limit
1	Ferguson Drive between Gerhart Avenue to ECL	EB/WB	03/24/2016	33.2	3,588	3.2	30

The data from **Tables 3 and 4** indicate that the speed results are similar, but the accident rate has increased for the one segment and the 2019 volumes are higher. The speeds are roughly the same, but traffic has increased along Ferguson Drive. The high accident rate (4.34) is an indicator that the City may want to look into reducing the posted speed limit by 5 mph for a 25 mph posted limit in the future at least in the residential segments of Ferguson Drive from Saybrook Avenue to the ECL at Concourse Avenue.

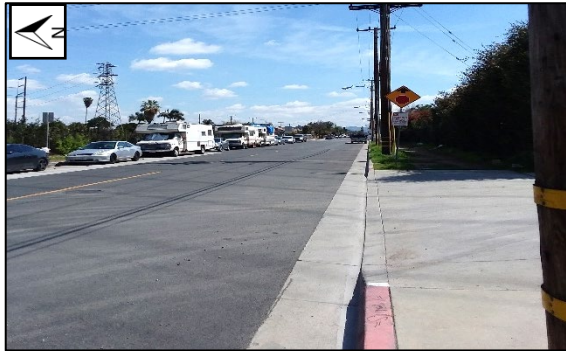
PICTURE SUMMARY:



*Ferguson Drive at Hendricks Avenue
facing east - Segment 1*



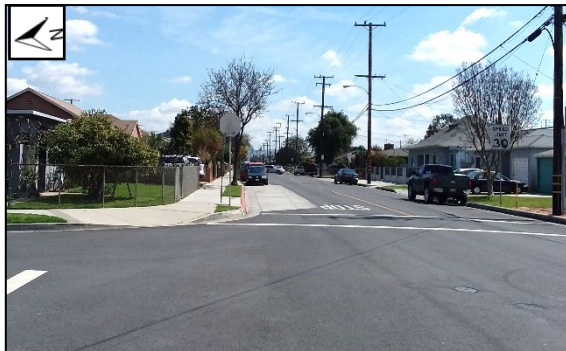
*Ferguson Drive at Westside Drive facing
west - Segment 1*



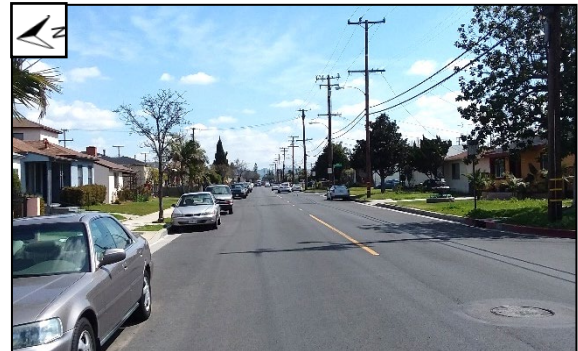
Ferguson Drive at Westside Drive facing east - Segment 1



Ferguson Drive at Saybrook Avenue facing west - Segment 1



Ferguson Drive at Saybrook Avenue facing east - Segment 2



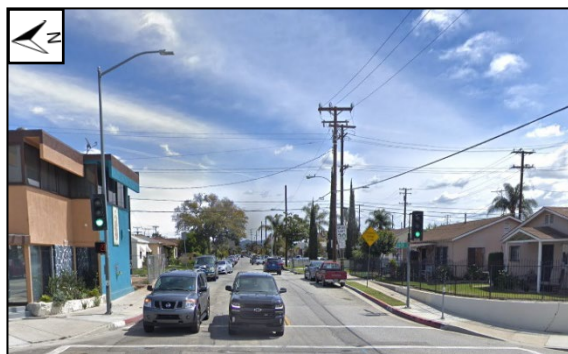
Ferguson Drive at Tolmie Avenue facing east - Segment 2



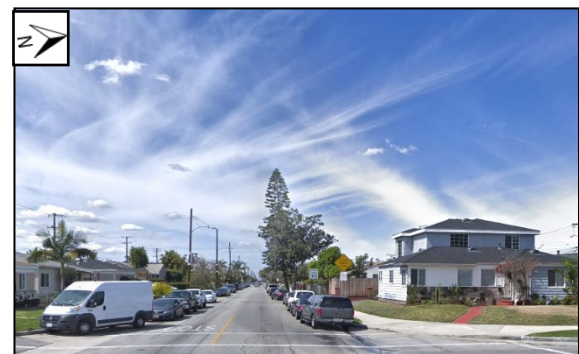
Ferguson Drive at Tolmie Avenue facing west - Segment 2



Ferguson Drive at Garfield Avenue facing west - Segment 2



Ferguson Drive at Garfield Avenue facing east - Segment 3



Ferguson Drive at Concourse Avenue facing west - Segment 3



***Ferguson Drive at Concourse Avenue
facing east - Segment 3***



***Ferguson Drive at ECL facing west –
Segment 3***

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 and in 2020 the Speed Hump Policy was updated to better reflect the current traffic conditions in the City of Commerce and to provide a broader set of guidelines when determining which streets would be candidates for installation of speed humps. The installation of speed humps is based on adjacent land use 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 on the following page:

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 the City of Commerce Updated Guidelines:

1. The street must be functionally classified as a residential, local, or collector street. The street cannot be designated as an arterial 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 speed limit not exceeding 30 miles-per-hour.
7. The street must have a minimum ADT volume of 500 average daily vehicle trips and a maximum ADT volume of 4,000 vehicles per day and with additional assessment of potential impacts on streets with 4,000 to 10,000 average daily vehicle trips.
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.
11. Installation of speed humps should be based on the general guidelines in the Commerce Speed Hump Policy as well as Engineering Judgment.

Using the guidelines as presented above, segments 2 and 3 on Ferguson Drive from Saybrook Avenue to ECL would be candidates for installation of speed humps by meeting most of the criteria for installation. Residents have complained that the increase in traffic during peak travel times is decreasing their quality of life and living environment and installation of speed humps may help to reduce the amount of traffic along Ferguson Drive as well as help mitigate speeding problems. Although the two segments do not meet all of the City of Commerce requirements for installation of speed humps by being considered a route for local buses. Speed humps were installed on Ferguson Drive in the City of Montebello. The City of Commerce as well as most other Cities require that residents along the street that is being considered for speed hump installation be notified and given the opportunity to agree or object to installation.

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 with appropriate signage and markings will be approximately \$95,500.

Respectfully submitted,

Daniel Hernandez,
Director of Public Works

Recommended & prepared by:

Traffic Engineers

ATTACHMENTS:

1. 24-hour Speed Survey on Ferguson Dr Between Hendricks Ave & Saybrook Ave
2. Radar Speed Survey - Nicola Avenue to Garfield Avenue
3. Radar Speed Survey - Garfield Avenue to Concourse Avenue
4. Average Daily Traffic (ADT) for Ferguson Dr Bet. Hendricks Ave & Saybrook Ave
5. Average Daily Traffic (ADT) for Ferguson Dr E/O Nicola Ave
6. Average Daily Traffic (ADT) for Ferguson Dr W/O Concourse Ave

Attachment 1: 24-hour Speed Survey on Ferguson Dr Between Hendricks Ave & Saybrook Ave

Prepared by National Data & Surveying Services

SPEED

Ferguson Dr Bet. Hendricks Ave & Saybrook Ave

Day: Thursday

Date: 3/21/2019

City: Commerce

Project #: CA19_5137_013

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	0	3	12	25	4	1	1	0	0	0	0	0	0	46
01:00	1	2	9	17	7	1	0	0	0	0	0	0	0	37
02:00	0	0	4	11	2	2	0	0	0	0	0	0	0	19
03:00	1	1	6	14	9	3	0	0	0	0	0	0	0	34
04:00	0	0	16	34	10	2	0	0	0	0	0	0	0	62
05:00	1	4	38	67	30	4	1	0	0	0	0	0	0	145
06:00	1	12	72	95	33	3	0	0	0	0	0	0	0	216
07:00	13	52	172	166	50	3	1	0	0	0	0	0	0	457
08:00	4	31	110	142	41	11	0	2	0	0	0	0	0	341
09:00	2	18	78	108	53	2	0	0	0	0	0	0	0	261
10:00	3	20	96	102	35	0	2	1	0	0	0	0	0	259
11:00	16	33	89	100	26	0	1	2	0	0	0	0	0	267
12:00 PM	6	41	99	117	44	3	0	0	0	0	0	0	0	310
13:00	6	18	115	155	34	4	1	0	0	0	0	0	0	333
14:00	5	42	118	200	67	6	2	0	0	0	0	0	0	440
15:00	15	23	157	263	86	6	2	1	0	0	0	0	0	553
16:00	21	42	164	292	97	7	2	0	0	0	0	0	0	625
17:00	18	33	162	297	85	7	1	0	0	0	0	0	0	603
18:00	9	27	139	237	78	4	1	0	0	0	0	0	0	495
19:00	2	17	106	149	33	4	0	0	0	0	0	0	0	311
20:00	5	16	64	102	20	4	0	2	0	0	0	0	0	213
21:00	0	9	56	51	11	2	0	0	0	0	0	0	0	129
22:00	0	2	31	41	18	0	1	1	0	0	0	0	0	94
23:00	0	4	17	30	11	5	0	0	0	0	0	0	0	67
Totals	129	450	1930	2815	884	84	16	9						6317
% of Totals	2%	7%	31%	45%	14%	1%	0%	0%						100%

AM Volumes	42	176	702	881	300	32	6	5	0	0	0	0	0	2144
% AM	1%	3%	11%	14%	5%	1%	0%	0%						34%
AM Peak Hour	11:00	07:00	07:00	07:00	09:00	08:00	10:00	08:00						07:00
Volume	16	52	172	166	53	11	2	2						457
PM Volumes	87	274	1228	1934	584	52	10	4	0	0	0	0	0	4173
% PM	1%	4%	19%	31%	9%	1%	0%	0%						66%
PM Peak Hour	16:00	14:00	16:00	17:00	16:00	16:00	14:00	20:00						16:00
Volume	21	42	164	297	97	7	2	2						625
Directional Peak Periods	AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes	
All Speeds	Volume			%	Volume			%	Volume			%	Volume	%
	798	↔		13%	643	↔		10%	1228	↔		19%	3648	58%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Ferguson Dr	Summary	21	26	26	30	34	6317

Attachment 2: Radar Speed Survey - Nicola Avenue to Garfield Avenue

City of Commerce			
Public Works and Engineering			
Street Name: <u>FERGUSON DRIVE</u>			
Limits: <u>NICOLA AVENUE to GARFIELD AVENUE</u>			
Radar Survey Sheet			
<u>X=West / =East</u>			
5	10	15	20
25	30	35	40
#	%ea	cum.%	
45			
40	1	0.9%	100%
35	1	0.9%	99.1%
30	2	1.8%	98.2%
25	3	2.7%	96.4%
20	3	2.7%	93.6%
15	8	7.3%	90.9%
10	7	6.4%	83.6%
5	12	10.9%	77.3%
0	15	13.6%	66.4%
	19	17.3%	52.7%
	9	8.2%	35.5%
	8	7.3%	27.3%
	9	8.2%	20.0%
	6	5.5%	11.8%
	3	2.7%	6.4%
	3	2.7%	3.6%
	1	0.9%	0.9%
Total Samples		110	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>85th Percentile Speed: <u>33.2</u></p> <p>50th Percentile Speed: <u>29.8</u></p> <p>15th Percentile Speed: <u>26.4</u></p> <p>10 MPH Pace: <u>25-34</u></p> <p>Number in Pace: <u>96</u></p> <p>Percent in Pace: <u>87.3%</u></p> </div> <div style="width: 50%;"> <p>Date of Survey: <u>4/25/2019</u> Start Time: <u>11:02</u></p> <p>Weather: <u>Clear</u> End Time: <u>12:00</u></p> <p>Road Condition: <u>Fair some Crac</u> Posted Speed: <u>30</u></p> <p>Street Class.: _____</p> <p>Observer: <u>BR</u></p> <p>Conditions not Apparent: <u>No Parking Thurs for Street Sweeping</u></p> </div> </div>			

Attachment 3: Radar Speed Survey - Garfield Avenue to Concourse Avenue

City of Commerce Public Works and Engineering											
Street Name: <u>FERGUSON DRIVE</u>											
Limits: <u>GARFIELD AVENUE to CONCOURSE AVENUE</u>											
Radar Survey Sheet											
<u>X=West /=East</u>											
	5	10	15	20	25	30	35	40	#	%ea	cum.%
45											
44											
43											
42											
41											
40											
39											
38											
37											
36											
35									1	0.8%	100%
34									4	3.1%	99.2%
33									9	6.9%	96.2%
32									10	7.6%	89.3%
31									14	10.7%	81.7%
30									18	13.7%	71.0%
29									18	13.7%	57.3%
28									12	9.2%	43.5%
27									15	11.5%	34.4%
26									12	9.2%	22.9%
25									9	6.9%	13.7%
24									5	3.8%	6.9%
23									4	3.1%	3.1%
22											
21											
20											
19											
18											
17											
16											
15											
14											
13											
12											
11											
10											
9											
8											
7											
6											
5											
4											
3											
2											
1											
0											
Total Samples									131		

85th Percentile Speed: <u>32.4</u>	Date of Survey: <u>4/25/2019</u>	Start Time: <u>10:05</u>
50th Percentile Speed: <u>29.5</u>	Weather: <u>Clear</u>	End Time: <u>10:58</u>
15th Percentile Speed: <u>26.1</u>	Road Condition: <u>Fair some Crac</u>	Posted Speed: <u>30</u>
10 MPH Pace: <u>25-34</u>	Street Class.: _____	
Number in Pace: <u>122</u>	Observer: <u>BR</u>	
Percent in Pace: <u>93.1%</u>	Conditions not Apparent: <u>No Parking for Street Sweeping</u>	

Attachment 4: Average Daily Traffic (ADT) for Ferguson Dr Bet. Hendricks Ave & Saybrook Ave

Prepared by National Data & Surveying Services

VOLUME

Ferguson Dr Bet. Hendricks Ave & Saybrook Ave

Day: Thursday
Date: 3/21/2019

City: Commerce
Project #: CA19_5137_013

DAILY TOTALS					NB	SB	EB					WB	Total		
					0	0						3,637	2,680	6,317	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00	0	0	2	11	13		12:00	0	0	50	34	84			
00:15	0	0	4	7	11		12:15	0	0	40	24	64			
00:30	0	0	6	7	13		12:30	0	0	55	39	94			
00:45	0	0	1	13	8	33	12:45	0	0	38	183	30	127	68	310
01:00	0	0	6	5	11		13:00	0	0	53	26	79			
01:15	0	0	7	8	15		13:15	0	0	43	29	72			
01:30	0	0	3	4	7		13:30	0	0	50	30	80			
01:45	0	0	3	19	1	18	13:45	0	0	71	217	31	116	102	333
02:00	0	0	3	3	6		14:00	0	0	55	32	87			
02:15	0	0	2	1	3		14:15	0	0	81	43	124			
02:30	0	0	4	3	7		14:30	0	0	76	48	124			
02:45	0	0	0	9	3	10	14:45	0	0	53	265	52	175	105	440
03:00	0	0	2	1	3		15:00	0	0	79	48	127			
03:15	0	0	8	6	14		15:15	0	0	92	41	133			
03:30	0	0	2	5	7		15:30	0	0	109	48	157			
03:45	0	0	4	16	6	18	15:45	0	0	97	377	39	176	136	553
04:00	0	0	2	4	6		16:00	0	0	101	43	144			
04:15	0	0	2	8	10		16:15	0	0	118	38	156			
04:30	0	0	8	8	16		16:30	0	0	120	46	166			
04:45	0	0	13	25	17	37	16:45	0	0	118	457	41	168	159	625
05:00	0	0	10	16	26		17:00	0	0	103	37	140			
05:15	0	0	12	16	28		17:15	0	0	113	40	153			
05:30	0	0	12	28	40		17:30	0	0	117	40	157			
05:45	0	0	22	56	29	89	17:45	0	0	115	448	38	155	153	603
06:00	0	0	11	31	42		18:00	0	0	85	40	125			
06:15	0	0	12	25	37		18:15	0	0	80	33	113			
06:30	0	0	20	39	59		18:30	0	0	111	29	140			
06:45	0	0	30	73	48	143	18:45	0	0	81	357	36	138	117	495
07:00	0	0	24	75	99		19:00	0	0	68	34	102			
07:15	0	0	35	81	116		19:15	0	0	58	28	86			
07:30	0	0	48	68	116		19:30	0	0	32	28	60			
07:45	0	0	44	151	82	306	19:45	0	0	42	200	21	111	63	311
08:00	0	0	43	55	98		20:00	0	0	46	26	72			
08:15	0	0	34	58	92		20:15	0	0	29	27	56			
08:30	0	0	27	51	78		20:30	0	0	22	17	39			
08:45	0	0	27	131	46	210	20:45	0	0	28	125	18	88	46	213
09:00	0	0	29	41	70		21:00	0	0	26	18	44			
09:15	0	0	29	46	75		21:15	0	0	13	16	29			
09:30	0	0	32	34	66		21:30	0	0	15	12	27			
09:45	0	0	27	117	23	144	21:45	0	0	11	65	18	64	29	129
10:00	0	0	24	38	62		22:00	0	0	15	11	26			
10:15	0	0	35	33	68		22:15	0	0	7	12	19			
10:30	0	0	26	40	66		22:30	0	0	17	13	30			
10:45	0	0	33	118	30	141	22:45	0	0	14	53	5	41	19	94
11:00	0	0	33	31	64		23:00	0	0	7	13	20			
11:15	0	0	27	45	72		23:15	0	0	10	8	18			
11:30	0	0	34	32	66		23:30	0	0	11	7	18			
11:45	0	0	35	129	30	138	23:45	0	0	5	33	6	34	11	67
TOTALS	857					1287	TOTALS	2780					1393	4173	
SPLIT %	40.0%					60.0%	SPLIT %	66.6%					33.4%	66.1%	

DAILY TOTALS				NB	SB					EB	WB	Total					
				0	0					3,637	2,680			6,317			
AM Peak Hour				11:45	07:00	07:00	PM Peak Hour				16:15	14:15	16:00				
AM Pk Volume				180	306	457	PM Pk Volume				459	191	625				
Pk Hr Factor				0.818	0.933	0.907	Pk Hr Factor				0.956	0.918	0.941				
7 - 9 Volume				0	0	282	516	798	4 - 6 Volume				0	0	905	323	1228
7 - 9 Peak Hour				07:15			07:00	07:00	4 - 6 Peak Hour				16:15			16:00	16:00
7 - 9 Pk Volume				0	0	170	306	457	4 - 6 Pk Volume				0	0	459	168	625
Pk Hr Factor				0.800	0.800	0.885	0.933	0.907	Pk Hr Factor				0.800	0.800	0.956	0.913	0.941

Attachment 5: Average Daily Traffic (ADT) for Ferguson Dr E/O Nicola Ave

Prepared by NDS/ATD

VOLUME

Ferguson Dr E/O Nicola Ave

Day: Tuesday
Date: 4/23/2019

City: Commerce
Project #: CA19_5213_002

DAILY TOTALS					NB	SB					EB	WB	Total
					0	0					2,994	2,270	5,264
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00			8	6	14		12:00			30	39	69	
00:15			3	5	8		12:15			32	26	58	
00:30			2	7	9		12:30			42	19	61	
00:45			4	17	5	23	12:45			29	133	26	110
01:00			4	2	6	40	13:00			40	28	68	
01:15			2	4	6		13:15			34	26	60	
01:30			1	5	6		13:30			35	33	68	
01:45			2	9	1	12	13:45			47	156	21	108
02:00			0	1	1		14:00			36	32	68	
02:15			2	0	2		14:15			48	27	75	
02:30			1	2	3		14:30			45	44	89	
02:45			5	8	5	8	14:45			69	198	32	135
03:00			3	1	4		15:00			54	44	98	
03:15			5	3	8		15:15			61	38	99	
03:30			2	6	8		15:30			65	39	104	
03:45			6	16	9	19	15:45			76	256	39	160
04:00			2	3	5		16:00			75	31	106	
04:15			4	12	16		16:15			101	37	138	
04:30			8	7	15		16:30			87	36	123	
04:45			11	25	14	36	16:45			97	360	34	138
05:00			15	9	24		17:00			110	43	153	
05:15			9	22	31		17:15			110	23	133	
05:30			15	22	37		17:30			92	27	119	
05:45			24	63	19	72	17:45			91	403	39	132
06:00			23	27	50		18:00			96	28	124	
06:15			15	34	49		18:15			94	19	113	
06:30			24	36	60		18:30			83	24	107	
06:45			20	82	70	167	18:45			59	332	29	100
07:00			28	58	86		19:00			51	30	81	
07:15			32	79	111		19:15			36	19	55	
07:30			50	62	112		19:30			41	18	59	
07:45			43	153	67	266	19:45			29	157	29	96
08:00			40	62	102		20:00			28	15	43	
08:15			30	56	86		20:15			26	23	49	
08:30			27	40	67		20:30			22	15	37	
08:45			30	127	44	202	20:45			14	90	16	69
09:00			18	32	50		21:00			32	16	48	
09:15			19	34	53		21:15			12	8	20	
09:30			21	27	48		21:30			20	13	33	
09:45			22	80	22	115	21:45			12	76	9	46
10:00			24	30	54		22:00			10	15	25	
10:15			30	15	45		22:15			13	15	28	
10:30			21	20	41		22:30			8	8	16	
10:45			26	101	24	89	22:45			4	35	10	48
11:00			27	22	49		23:00			3	14	17	
11:15			26	19	45		23:15			5	5	10	
11:30			18	24	42		23:30			5	7	12	
11:45			30	101	21	86	23:45			3	16	7	33
TOTALS			782	1095	1877		TOTALS			2212	1175	3387	
SPLIT %			41.7%	58.3%	35.7%		SPLIT %			65.3%	34.7%	64.3%	

DAILY TOTALS					NB	SB					EB	WB	Total
					0	0					2,994	2,270	5,264
AM Peak Hour			07:15	07:15	07:15		PM Peak Hour			16:45	15:00	16:15	
AM Pk Volume			165	270	435		PM Pk Volume			409	160	545	
Pk Hr Factor			0.825	0.854	0.971		Pk Hr Factor			0.930	0.909	0.891	
7 - 9 Volume	0	0	280	468	748		4 - 6 Volume	0	0	763	270	1033	
7 - 9 Peak Hour			07:15	07:15	07:15		4 - 6 Peak Hour			16:45	16:15	16:15	
7 - 9 Pk Volume	0	0	165	270	435		4 - 6 Pk Volume	0	0	409	150	545	
Pk Hr Factor	0.000	0.000	0.825	0.854	0.971		Pk Hr Factor	0.000	0.000	0.930	0.872	0.891	

Attachment 6: Average Daily Traffic (ADT) for Ferguson Dr W/O Concourse Ave

Prepared by NDS/ATD

VOLUME

Ferguson Dr W/O Concourse Ave

Day: Tuesday
Date: 4/23/2019

City: Commerce
Project #: CA19_5213_001

DAILY TOTALS					NB	SB					Total
					0	0					3,682
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			9	1	10	12:00			18	18	36
00:15			4	3	7	12:15			13	14	27
00:30			1	3	4	12:30			21	16	37
00:45			4	18	22	12:45			18	70	88
01:00			5	4	9	13:00			27	26	53
01:15			3	2	5	13:15			26	20	46
01:30			1	2	3	13:30			28	13	41
01:45			6	15	21	13:45			27	108	135
02:00			1	1	2	14:00			20	20	40
02:15			4	0	4	14:15			27	14	41
02:30			0	1	1	14:30			32	11	43
02:45			1	6	7	14:45			51	130	181
03:00			0	0	0	15:00			37	34	71
03:15			3	1	4	15:15			38	38	76
03:30			1	7	8	15:30			52	24	76
03:45			2	6	8	15:45			67	194	261
04:00			0	4	4	16:00			50	18	68
04:15			1	7	8	16:15			77	27	104
04:30			1	9	10	16:30			61	35	96
04:45			4	6	10	16:45			89	277	366
05:00			2	8	10	17:00			79	27	106
05:15			1	12	13	17:15			83	24	107
05:30			5	19	24	17:30			70	21	91
05:45			7	15	22	17:45			61	293	354
06:00			11	20	31	18:00			69	20	89
06:15			9	18	27	18:15			75	23	98
06:30			8	26	34	18:30			51	20	71
06:45			12	40	52	18:45			36	231	267
07:00			13	56	69	19:00			35	27	62
07:15			19	48	67	19:15			29	17	46
07:30			21	54	75	19:30			22	16	38
07:45			29	82	111	19:45			18	104	122
08:00			23	47	70	20:00			14	14	28
08:15			16	41	57	20:15			18	16	34
08:30			19	35	54	20:30			11	10	21
08:45			22	80	102	20:45			16	59	75
09:00			16	27	43	21:00			22	11	33
09:15			14	28	42	21:15			12	9	21
09:30			13	24	37	21:30			10	11	21
09:45			14	57	71	21:45			9	53	62
10:00			9	15	24	22:00			12	11	23
10:15			21	10	31	22:15			12	6	18
10:30			13	17	30	22:30			7	4	11
10:45			20	63	83	22:45			4	35	39
11:00			22	19	41	23:00			6	5	11
11:15			15	16	31	23:15			4	3	7
11:30			9	17	26	23:30			5	7	12
11:45			14	60	74	23:45			3	18	21
TOTALS			448	818	1266	TOTALS			1572	844	2416
SPLIT %			35.4%	64.6%	34.4%	SPLIT %			65.1%	34.9%	65.6%

DAILY TOTALS					NB	SB					Total
					0	0					3,682
AM Peak Hour			07:15	07:00	07:15	PM Peak Hour			16:45	14:45	16:30
AM Pk Volume			92	204	287	PM Pk Volume			321	120	425
Pk Hr Factor			0.793	0.911	0.957	Pk Hr Factor			0.902	0.789	0.916
7 - 9 Volume	0	0	162	363	525	4 - 6 Volume	0	0	570	218	788
7 - 9 Peak Hour			07:15	07:00	07:15	4 - 6 Peak Hour			16:45	16:15	16:30
7 - 9 Pk Volume	0	0	92	204	287	4 - 6 Pk Volume	0	0	321	116	425
Pk Hr Factor	0.000	0.000	0.793	0.911	0.957	Pk Hr Factor	0.000	0.000	0.902	0.829	0.916