



**CITY OF GLENDALE, CALIFORNIA
REPORT TO THE CITY COUNCIL**

AGENDA ITEM

Report: Slow Streets Program Update

1. Motion authorizing the use of styrene sign material for new slow street sign installations within the roadway, including back-to-back sign mountings and modified placement of slow street signs to allow for truck turns for the Glendale Slow Streets Program

COUNCIL ACTION

Item Type: Action Item

Approved for 10/11/22 **calendar**

EXECUTIVE SUMMARY

Following completion of Phase I of the Slow Streets Program, staff has looked into modified materials for new slow street sign installations within the roadway. Staff respectfully asks City Council to approve a motion authorizing the use of back-to-back styrene sign mountings and modified placement of slow street signs to allow for truck turns for the Slow Streets Program.

COUNCIL PRIORITIES

Mobility/Connectivity/Safety: This program will implement a permanent slow streets program to improve the safety for all modes of transportation in some of the city's highest need areas.

RECOMMENDATION

Approve a motion authorizing the use of styrene sign material for new slow street sign installations within the roadway, including back-to-back sign mountings and modified placement of slow street signs to allow for truck turns for the Slow Streets Program.

BACKGROUND

The Slow Streets Program is comprised of two phases, with Phase I including the installation of 100 slow street sign assemblies at various high priority locations throughout the city. Phase II of the program includes installation of up to 200 slow street sign assemblies and will allow residents to fill out an online application requesting the street adjacent to their home to be included in the program. Phase I was completed on June 30, 2022, and due to field conflicts after installation, City Council asked staff to revisit the program and recommend improvements.

Lessons Learned from Phase I – Permanent Slow Streets Program

Phase I of the Slow Streets Program included the installation of 100 slow street sign assemblies. After implementation of Phase I, the following observations were made:

- Motorists run over the sign assemblies installed at the center of the roadway;
- The corrugated plastic signs have been damaged and/or detached from the tuff post due to vehicle impacts;
- Although the corrugated plastic signs are not durable, a majority of tuff posts sign bases are still in-place, despite sustaining multiple vehicle impacts;
- Several tuff posts had to be removed due to proximity to nearby driveways;
- Glendale Public Works Integrated Waste Management (IWM) staff have expressed difficulties maneuvering trucks into streets with signs installed at the center of the roadway;
- Sign assemblies were installed at the center of the roadway along Ethel Street as a pilot test for streets less than 36-feet wide. Ethel Street is 30-feet wide. On the same day of installation, the signs had to be removed due to impacts from vehicles and conflict with Glendale IWM truck turns; and
- Signs installed on the roadside, for streets less than 36-feet wide have not been harmed and the likelihood of vehicle impact is low.

ANALYSIS

In response to the lessons learned from Phase I as described above, staff recommends the following modifications for Phase I and II moving forward:

- Upgrade signs to thicker, stronger styrene material

- Signs are currently made of corrugated plastic, which is lightweight, low cost, and easily bendable by hand;
- Styrene is a thick, plastic based material that is much stronger, not bendable by hand, and made with high impact-resistant materials similar to material used for the tuff posts;
- Styrene signs are expected to be more durable than corrugated plastic;
- Styrene signs are expected to minimize sign damage and reduce the likelihood of signs detaching from the tuff post during a vehicle impact;
- Install sign assemblies, in center of roadway, only on streets 36-feet wide or greater
- Mount signs 6-inches higher on the tuff posts and install double-sided high durability signs in the center of the roadway
 - Provides enhanced visibility and increased driver awareness;
- Set back sign assemblies from the intersection approach
 - Improves turning maneuvers, specifically for garbage trucks and emergency vehicles; and
- Provide 10-foot spacing between sign assembly and driveways, when practical
 - Provides maneuverability in and out of residential driveways;

City Council also asked staff to look into upgrading signs to a metal material (i.e. aluminum), however, this is not recommended because of the following:

- Metal signs increase the potential for damage to vehicles if the sign and tuff post are impacted; and
- If the metal sign is impacted by a vehicle, it may get lodged on the vehicle and cause the tuff post to be dislodged from its base and become a projectile, thereby, increasing potential for injury to pedestrians and bystanders.

Service Trucks and Emergency Vehicles

In response to garbage truck and emergency vehicle turning access issues that arose during the deployment of Phase I, staff analyzed turning paths for service, shipping, and emergency vehicles, and the potential conflicts with the slow street sign placements. Staff found that placements of the slow street signs could be improved by setting the signs further away from the intersection to allow for garbage truck size vehicles, box-truck shipping delivery trucks like Fed-Ex and UPS, and emergency vehicles to maneuver the turns at intersections. Emergency vehicles have the benefit of being able to use the entire roadway and this was taken into consideration in the analysis. Exhibits A, B, and C depict typical turning paths for the vehicles mentioned above. Staff proposes to locate the slow street signs 25-feet or further from the intersection and adjust, if necessary, for any conflicts with driveways or other field conditions. This placement will minimize conflict with larger vehicles and still be visible to other drivers with standard size vehicles.

Concrete Island Alternative

This alternative proposes installation of a small, raised, concrete island to protect the slow street sign assembly. The island dimensions are 6-inches tall by 2-feet wide, by 6-feet long with radius ends. The slow streets sign is mounted on top of and at the mid-point of the island. The curb of the island is painted with yellow, reflective paint and complemented with reflective pavement markers along the edges of the pavement surface. Yellow striping paint may also be included to delineate around the island.

The minimum street width for consideration of this alternative is from 36-feet to 38-feet to accommodate the additional width of the island, maintain on-street parking on both sides of the street and 10-foot wide travel lanes.

K-71 Flexible Traffic Post Alternative

K-71 Flexible Traffic Posts (FTP) have a larger diameter and are shorter than the tuff posts used for the Slow Streets Program center-of-street sign assemblies. FTPs are 7-1/2 inches in diameter and 30-inches tall, whereas the tuff posts are 2-3/8-inches in diameter and are 42-inches tall. FTPs provide a wider surface area and two 4-inch wide reflective bands that enhance visibility to drivers.

This alternative proposes to install two to four FTPs surrounding the center-of-street Slow Street sign assemblies. On streets 36-feet wide, the FTPs are installed in front of and behind the Slow Street sign assemblies (i.e., along the yellow centerline). On streets 40-feet wide, or wider, supplemental FTPs are installed on each side of the slow street sign assembly, approximately 6-inches from the edge of the slow street signs, as measured towards the street curb.

City of Los Angeles Department of Transportation (LADOT) Draft Slow Streets Sign Assembly

The LADOT Draft Slow Streets sign assembly involves installation of a “splitter island” at the center of the roadway at intersections or at midblock. The “splitter island” includes 4-inch yellow striping, eight yellow reflective raised pavement markers along the striping, “15” pavement marker, fixed metal sign post, metal warning signs with standard pedestrian/bicycle symbols, a 15 miles per hour advisory speed sign, four FTP flexible traffic bollards around the sign, and red curb (See Exhibit D). The pros and cons of the LADOT draft sign assembly are provided below:

Pros	Cons
Advisory signage mounted high for increased visibility	Clearance area does not accommodate truck turning radius
Splitter island design provides enhanced visibility and increased driver awareness	Damage to vehicles and risk of injuries if sign post is impacted by vehicle
15 MPH advisory speed sign and pavement marking	Red curb required for tapered striping negatively impacts residential parking
	Cost for splitter island is significantly higher compared to Tuff posts

LADOT and Glendale Slow Streets Sign Assembly Comparison

A summary of the major similarities and differences between the LADOT and Glendale Slow Streets sign assembly is provided below:

Similarities	Differences
Sign assembly installed near the approach limit line/stop bar	LADOT sign assembly includes tapered striping, red curb, bollards, and speed pavement marker
Advisory signage and raised reflective pavement markings part of sign assembly	Glendale sign assembly equips raised pavement markers with solar powered component that provides flashing LED lights in the evening to enhance visibility
Sign assembly requires minimum 10' clearance from the curb or parked vehicle	LADOT assembly includes red curb; Glendale sign assembly does not impact parking

Based on review of the draft LADOT Slow Streets Program, the sign assembly is not recommended for the City of Glendale. The draft LADOT sign assembly is expected to reduce parking and/or clearance area if implemented in Glendale. Staff recommends the permanent Slow Streets Program to proceed with the modifications described herein.

Recommended Styrene Sign Modifications:

Staff recommends to move forward with installation of back-to-back styrene signs for all street mounted Phase I and Phase II permanent program applications, including additional measures to enhance visibility and protection of the signs, using the FTP traffic post and concrete island alternatives listed below.

Recommended Phase I Permanent Program Modifications:

To implement measures to enhance visibility and protection of slow street signs, on streets that are 36-feet wide or greater, three additional measures will be installed, as described below. Quantities are based on modifications of Phase I installations:

1. Streets 36-feet wide: Supplement the new double-posted styrene signs with the FTP 2-post alternative. This alternative will install a FTP traffic post in front of and behind the slow street sign assemblies (i.e., along the yellow centerline). Ten street segments have been identified, within the Phase I deployments, and include a total of 22, two-post FTP traffic post installations (i.e., a total of 44 FTP traffic posts).
2. Streets 38-feet wide: Supplement the new double-posted styrene signs with the concrete island alternative. Two street segments have been identified within the Phase I deployments and include a total of 12 concrete islands to supplement the slow street sign assemblies.

3. Streets 40-feet wide or greater: Supplement the new double-posted styrene signs with the FTP 4-post alternative. This alternative will install four FTP traffic posts surrounding the center-of-street Slow Street sign assemblies. Four street segments have been identified within the Phase I deployments and include a total of 22 four-post FTP traffic post installations (i.e. a total of 88 FTP traffic posts).

Recommended Phase II Permanent Program Modifications:

To accommodate Phase II deployments, plan for installation of 40 additional two-post FTP installations, 40 additional 4-post installations, and 20 concrete island installations. The materials and labor for the FTP traffic post alternatives may be added to the existing Public Works contract, pending Finance Department review. The concrete island alternative may be incorporated into an existing Public Works capital improvement project for construction. There is adequate budget to accommodate these additional items.

The engineer’s estimates for the recommended slow streets program modifications are listed below in Table 1. The costs for the FTP and concrete medians have been highlighted with an asterisk.

Table 1

Description	Quantity	Unit	Price	Total
Phase I				
1. Install new hard plastic (styrene) signs (install back to back signs on 60 tuff posts for center of roadways only);	120	EA	\$230	\$27,600
2. *Streets 36-feet wide - Install two (2) K71 traffic posts, in front of and behind slow street signs;	44	EA	\$350	\$15,400
3. *Streets 38-feet wide – Install 2 ft. x 6 ft. concrete island;	12	EA	\$3,000	\$36,000
4. *Streets 40-feet wide, or greater – Install four (4) K71 traffic posts, surrounding the slow street signs;	88	EA	\$350	\$30,800
Phase I Sub-total				\$109,800

Phase II				
5. Install new hard plastic (styrene) signs (install back to back signs on 200 Tuff posts for center of roadways only);	400	EA	\$230	\$92,000
6. *Streets 36-feet wide - Install two (2) K71 traffic posts, in front of and behind slow street signs;	80	EA	\$350	\$28,000
7. *Streets 38-feet wide – Install 2 ft. x 6 ft. concrete island;	20	EA	\$5,000	\$100,000
8. *Streets 40-feet wide, or greater – Install four (4) K71 traffic posts, surrounding the slow street signs;	160	EA	\$350	\$56,000
Phase II Sub-total				\$276,000
TOTAL (PHASE I & II)				\$385,800

Environmental Review

This project is Categorically Exempt under the provisions of the California Environmental Quality Act as a Class 1 Exemption pursuant to the California Code of Regulations, Title 14, Section 15301.

Anticipated Project Schedule

The installation of the styrene, back-to-back signs are anticipated to begin by November 15, 2022 at locations that do not incorporate a concrete median. Implementation of concrete medians is estimated to begin in January 2023, after the holiday moratorium restrictions at certain locations.

FISCAL IMPACT

The implementation of the new styrene material only, including installing signs back-to-back, so they are visible from either direction will cost \$119,600, which was approved as a part of the FY 2022-23 budget for the Slow Streets Program. No new appropriation is being requested at this time. The City Council approved funding is outlined below:

Existing Appropriation		
Amount	Account String	Funding Source
\$119,600	GL: 43110-2220-PWD-0020-P0000 PL: PWD00594AN	Measure M Local Return Fund

Funding, however, is not available for the FTP traffic posts and concrete medians to enhance visibility and protection of the signs estimated at \$266,200, and Staff will return to Council with a resolution of appropriation for increasing existing construction contract amounts after reviewing cost proposals from existing Public Works contractors currently working in the City.

ALTERNATIVES

- Alternative 1: Approve the motion authorizing the use of styrene sign material for new slow street sign installations within the roadway, including back-to-back sign mountings and modified placement of slow street signs to allow for truck turns for the Glendale Slow Streets Program.
- Alternative 2: Do not approve the motion for making improvements to the Slow Streets Program. Doing so will not extend the service life of street mounted corrugated plastic slow street signs and they will continue to be susceptible to damage from turning trucks.
- Alternative 3: The City Council may consider any other alternative not proposed by staff.

ADMINISTRATIVE ACTION

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EXHIBITS

Exhibit 1: Project Location Map for Phase I Slow Streets Sign Installations