

RECOMMENDATIONS TO IMPROVE PEDESTRIAN SAFETY IN THE CITY OF GLENDALE



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INTRODUCTION

Responding to a rash of recent pedestrian fatalities within the City, the City of Glendale invited the University of California at Berkeley's Safe Transportation Research Center (SafeTREC) and California Walks (Cal Walks) to return to Glendale to facilitate pedestrian safety action-planning workshops for the Glendale Pedestrian Safety Task Force (PSTF) and for community residents, City staff members, and other professionals. In 2009, UC Berkeley SafeTREC and Cal Walks facilitated a similar workshop for the City of Glendale and helped the City secure technical assistance from the Federal Highway Administration in the form of a 3-day training to develop a Pedestrian Safety Action Plan (PSAP).

The recent workshops built upon prior efforts and provided an overview of current pedestrian safety best practices to inform Glendale's actions and strategies to improve safety for Glendale residents and visitors going forward. Two workshops took place on Thursday, April 17, 2014 – a 4-hour workshop for the Pedestrian Safety Task Force (PSTF) and a 2-hour workshop for the community at large.

The PSTF workshop consisted of an overview of multidisciplinary approaches to improve pedestrian safety, a walkability assessment of city streets, and small group discussions to facilitate the development of recommendations for the City Council to improve the safety and walkability of Glendale. The community workshop focused on developing educational safety messages and included small group planning. This report summarizes the workshop proceedings, as well as ideas identified during the process.

BACKGROUND

Community Pedestrian Safety Training Program

The Community Pedestrian Safety Training (CPST) program is a joint project of the UC Berkeley SafeTREC and Cal Walks. Funding for this program is provided by a grant from the California Office of Traffic Safety (OTS) through the National Highway Traffic Safety Administration. The purpose of the CPST is to train local neighborhood residents and safety advocates in pedestrian safety and to educate them about collaborating with local officials and agency staff to make communities safer and more pleasant to walk. The half-day training is designed to provide participants with pedestrian safety best practices and a range of proven strategies (the 6 E's: Evaluation, Engineering, Enforcement, Education, Encouragement, Empowerment) to address and improve pedestrian safety conditions and concerns. Participants are then guided on a walkability assessment of nearby streets before setting pedestrian safety priorities and actionable next steps for their community.

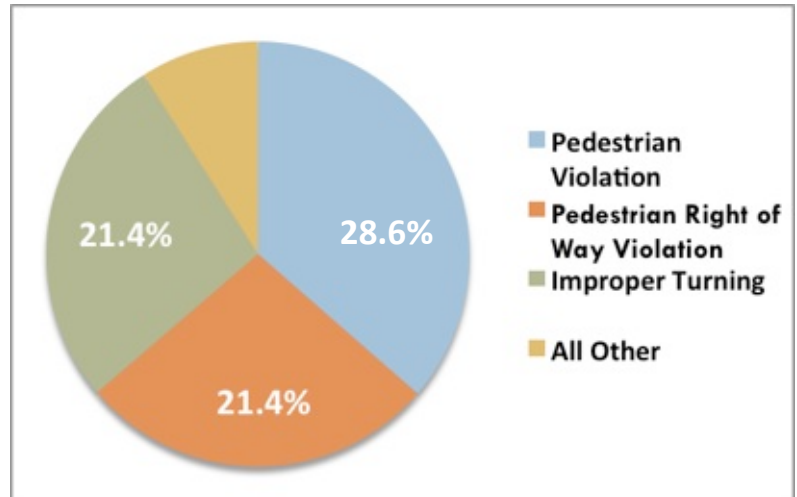
For a summary of outcomes from past CPST workshops, please visit:

www.californiawalks.org/wp-content/uploads/2012/07/CPST_Outcomes_2009-11.pdf

Glendale's Pedestrian Collision History

Over a five-year period (2007-2011), there have been a total of 531 pedestrian collisions in the City of Glendale, of which 14 have been fatal. In analyzing the collision data, the following trends were established:

- Pedestrian collisions comprised 60.9% of all fatal traffic collisions in Glendale;
- The top-two primary collision factors for all pedestrian collisions during this time period were pedestrian right-of-way violations (52.5%) and pedestrian violations (20.3%); and
- Of the fatal pedestrian collisions, pedestrian behavior was found to be the primary collision factor in 28.6% of the collisions, while driver behavior accounted for 42.8% of the fatal collisions.



The Glendale Police Department's analysis of more recent data (2009-2013) revealed:

- 12 of the 14 pedestrian fatalities during this time period were persons of Armenian descent; and
- 13 of the 14 pedestrian fatalities were persons aged 50 or older.

APRIL 17 WORKSHOPS

The City of Glendale asked that we conduct two pedestrian safety workshops: an afternoon workshop for the City of Glendale's Pedestrian Safety Task Force (PSTF)—comprised of 19 individuals representing concerned City residents, law enforcement, the schools, community agencies and the media— and an evening workshop for community residents that attracted the attendance of 35 individuals representing a variety of community organizations, the City of Glendale (elected officials, public work, law enforcement), and the media.

Reflections from Walkability Assessment

Walkability assessments were conducted by the PSTF in two small groups along portions of major arterial roads (Brand Blvd., Colorado St., and Glendale Ave.), as well as smaller side streets (Harvard St., Wilson Ave., Jackson St., and Louise St.). Participants were asked to 1) observe infrastructure conditions and the behavior of all road users and 2) apply strategies learned from the 6 E's presentation that could work in Glendale. Following the walkability assessments, PSTF participants shared the following reflections:

- Newer roadway projects by the City have taken exceptional steps to incorporate pedestrian needs and improve pedestrian safety;
- The City should revisit speed limits set on major arterial roads to account for pedestrian volumes and lower speeds, if necessary, to create a safer atmosphere for pedestrians;



NEW HIGH-VISIBILITY MID-BLOCK CROSSWALK WITH ACCOMPANYING SIGNAGE, BEACONS, AND ADVANCE YIELD LINES.

- Alleyways in the downtown area present a hazard to pedestrians, as many drivers are using these as cut-through routes;
- Crossing times at signalized intersections need to be re-evaluated and retimed as necessary. Participants noted that at Broadway and Glendale, there was not enough time to cross, while there was more than enough time to cross at Colorado and Glendale; and
- Texting while walking appeared to be prevalent among pedestrians, especially among younger road users.

Pedestrian Safety Task Force Recommendations

Following the walkability assessment, PSTF members formed two groups to discuss and provide concrete recommendations and actions for the City Council to consider for implementation. Cal Walks/SafeTREC have provided an estimated timeframe for implementation for the following recommendations made by PSTF members.

Engineering Recommendations

- **Amend High-Visibility Crosswalk Policy:** Current Public Works policy limits placement of high-visibility ladder crosswalks to areas within and adjacent to school zones. PSTF members recommended that the City revise this internal policy to include pedestrian collision hotspots and other destinations (e.g., senior centers, senior housing facilities, parks, etc.). Deputy Director of Public Works and PSTF Chair, Roubik Goulanian, commented that this recommendation is a common-sense approach and can be implemented immediately by the Public Works Department.

Timeframe: Short-Term (Immediate)

- **Establish/Clarify Prioritization Process for Restriping Crosswalks:** PSTF members commented on the faded condition of many crosswalks citywide. Given limited City funds, a policy that prioritizes and targets the most high-need areas for restriping of crosswalks is recommended. The City will determine if such a policy already exists. If it does, the policy

will be shared with PSTF members and the public, as well as reviewed and amended, as needed, to ensure restriping is accomplished in a strategic manner to maximize City resources (e.g., incorporated into existing repaving contracts). If no prioritization policy exists, PSTF members recommend establishing such a policy.

Timeframe:

Short-Term: (3-6 months) for disseminating existing policy;

Intermediate-Term (6-12 months) to develop policy if none existing

- **Stripe Additional Advance Yield Lines & Restripe Faded Advanced Yield Lines Citywide:** An advance yield line placed 20 to 50 feet ahead of a marked crosswalk may greatly reduce the likelihood of a multiple-threat crash, particularly at unsignalized midblock crossings. PSTF members recommended that the City restripe advance yield lines that have faded, as well as implement additional advance yield lines citywide as a low-cost, short-term intervention. Costs for implementation of new advance yield lines can be greatly reduced when paired with existing or planned repaving projects (\$200-\$800 per intersection v. \$1000-\$2,000, respectively). As an immediate action, the Public Works Department could conduct a review of all pending repavement projects to identify locations where advance yield lines are appropriate and to take the necessary steps to incorporate the striping costs within the repaving projects.

Timeframe:

Short-Term (3-6 months) for review of pending repavement projects to include advance yield line striping;

Long-Term (Ongoing) for citywide advance yield line installation

- **Spot Improvements**
 - **Orange Grove Ave. & Glendale Ave.:** While unmarked crosswalks technically exist at Orange Grove Ave. crossing Glendale Ave., the streets intersect at a skewed angle, rendering visibility poor at this location. PSTF members recommended squaring off the intersection using low-cost, temporary materials (e.g., paint, soft-hit posts, bollards) in the near-term, while pursuing funding longer-term to reconfigure the intersection with hardscape elements.

Timeframe:

Short-Term (3-6 months) for temporary improvement;

Intermediate-Term (6-18 months) to identify funding for reconfiguration;

Long-Term (18 months or more) for full intersection reconfiguration

- **Kenwood St. & Broadway:** While this intersection contains existing marked crosswalks and accompanying signage, drivers were observed



DRIVERS FREQUENTLY DID NOT YIELD DESPITE MARKED AND SIGNED CROSSING, KENWOOD & BROADWAY

frequently failing to yield to pedestrians crossing Broadway. Given the pedestrian attractors on both sides of Broadway—the Post Office and church on the north side and several senior-housing complexes on the south side—PSTF members recommended the City explore full signalization of this intersection.

Timeframe: Intermediate- to Long-Term (6-24 months)

- **Develop Public Prioritization Process for Implementation of Bulb-outs, Leading Pedestrian Intervals, & Pedestrian Scrambles:** Several PSTF members expressed interest in more citywide implementation of bulb-outs/curb extensions, leading pedestrian intervals (“pedestrian head starts”), and pedestrian scrambles (crossing permitted in diagonal directions). Given the need for greater evaluation of appropriate locations for these treatments, it is recommended that the City develop a public prioritization process for these types of treatments, and then secure funding for implementation of these treatments in the long-term.

Timeframe:

Intermediate-Term (6-18 months) to develop public prioritization process;

Long-Term (Ongoing) to secure funding for implementation



WIDE TURNING RADIUS, CANDIDATE FOR BULB OUTS

Enforcement Recommendations

- **Citywide Implementation of Speed Feedback Signs:** PSTF members recommended wider-scale installation of stationary speed feedback signs, particularly along high-volume arterial roads.

Timeframe:

Intermediate-Term (6-18 months) for installation in high-need locations;

Long-Term (Ongoing) for citywide installation

- **Improve Public Request Process for Mobile Glendale Police Department Warning Signs:** PSTF members expressed that placement of Glendale PD mobile warning signs lacked transparency. PSTF members recommended that the process for residents to request the mobile warning signs be clarified, streamlined, and made easily accessible (via web or phone).

Timeframe:

Short-Term: (2-4 months) for disseminating existing policy and process;

Intermediate-Term (6-12 months) to improve policy in consultation with public stakeholders, if warranted

- **Support Existing Hotspot Enforcement & Pursue Ongoing Funding:** PSTF members supported Glendale PD's current enforcement campaigns that emphasize collision hotspots. PSTF members recommend that the City Council continue to fund such enforcement and to approve efforts to secure ongoing funding to support hotspot and intersection enforcement accompanied by education of drivers and pedestrians.

Timeframe:

Intermediate- to Long-Term (6-18 months) to continue current enforcement campaign(s);

Long-Term (Ongoing) to identify and pursue ongoing funding to support pedestrian safety enforcement

- **Explore the Feasibility of Administrative Tickets for Pedestrian Safety Violations:** PSTF members expressed interest in the use of administrative tickets as a traffic safety education strategy. First-time offenders of certain violations—whether pedestrians or drivers—would be presented with the option of paying for and taking a safety class instead of paying a fine. Upon successful completion of the safety class, citation receivers would receive a dismissal (no conviction) or a sentence of discharge (conviction entered but no fine), depending on the traffic violation. Such a program would require determining which City department is responsible for developing and conducting the safety education courses, as well as how much staff time and other resources would be needed to manage the program and coordinate with class participants, the police department and local courts.

Timeframe:

Intermediate-Term (6-12 months) for preliminary study;

Long-Term (8-18 months) for implementation and evaluation of pilot program;

Long-Term (Ongoing) to identify and pursue ongoing funding to support program

- **Increase Reach of Enforcement Efforts through Media:** The PSTF recommended that the Glendale PD expand the reach of its current pedestrian safety enforcement efforts through more widespread use of the media. One potential approach is to adopt an internal policy to require that all enforcement campaigns include an expanded media campaign work plan, as well as to allocate adequate resources in existing and future enforcement campaigns to support accomplishment of the media work plan.

Timeframe:

Intermediate- to Long-Term (6-18 months) for current enforcement campaign(s);

Long-Term (Ongoing) for future campaign(s)

Education Recommendations

- **Allocate/Secure Funding to Develop Suite of Professionally Designed Educational Materials:** PSTF members strongly supported the development of professionally designed educational materials. These materials would provide a single, unified brand for use across City departments and community groups, as well as across different mediums (TV, radio, Public Service Announcements (PSA), etc.) to better reinforce pedestrian safety messages. The PSTF would be the coordinating body spearheading this effort. The professionals hired

to develop the materials would work with the PSTF and other community members to refine safety messages developed during the April 17 workshops. Safety messages and materials must be culturally competent and resonate with the Armenian and/or older adult population (i.e., those most at-risk in pedestrian collisions).

Timeframe:

Short-Term (3-6 months) to identify funding source;

Intermediate-Term (6-12 months) to hire design/communications consultant;

Intermediate- to Long-Term (6-18 months) for development and public review of educational materials

- **Establish Pilot Area for Intensive Pedestrian Safety Education Campaign:** Given limited resources, PSTF members recommended that outreach to implement, test, and evaluate pedestrian safety education messages and materials be limited (at first) to a small pilot area—based either on collision hotspot locations or where existing community connections are strongest. Direct outreach should be community-member led, with financial or staffing support from the City.

Timeframe:

Short-Term (3-6 months) to identify pilot area;

Intermediate- to Long-Term (6-18 months) for pilot program implementation and evaluation

- **Cultivate Community Partnerships & Engage Local Businesses to Broadcast Pedestrian Safety Education Messages:** PSTF identified the following as key stakeholders and allies, as well as potential outlets for the dissemination of pedestrian safety education messages:

- | | |
|---|--|
| ○ Local Armenian TV Channels | to develop and launch a “Watch |
| ○ Churches | Out for Our Customers” campaign |
| ○ Armenian National Committee—
Glendale Chapter | ▪ Business Improvement
District |
| ○ Boy/Girl Scouts | ▪ Mom-and-pop stores |
| ○ Health Centers & Hospitals:
educational messages and
materials could be incorporated
into discharge procedures and
paperwork. | ▪ Brand St. Car Dealers:
safety messaging could be
incorporated at point-of-
sale |
| ○ Movie Theaters: screen PSAs
during movie previews | ▪ New/Incoming Businesses |
| ○ Local Businesses:
Collaborate with local businesses | |

Timeframe:

Short-Term (3-6 months) for initial outreach;

Long-Term (Ongoing) to sustain partnerships

- **Allocate/Secure Funding to Develop of Hands-On Education Methods:** PSTF members identified the need for hands-on, in-person education in order to reach the target older

adult Armenian population. Such an approach could involve the families/grandchildren to teach elders basic pedestrian safety skills in a real-world setting while out walking and could be coordinated with other encouragement activities during Walk to School and Walktober.

Timeframe:

Short-Term (3-6 months) to identify funding source;

Intermediate- to Long-Term (6-18 months) for pilot program implementation and evaluation

Community Resident Recommendations

A separate workshop for community residents at-large was hosted following the PSTF workshop, focused solely on developing pedestrian safety education strategies. Community participants worked in 5 small groups to develop recommendations for a) content/subject of pedestrian safety messages and b) outlets for dissemination.

Recommendations for Pedestrian Safety Messages

- **Community Values:** Community residents supported several potential directions for communicating the community's values through a pedestrian safety education campaign:
 - 1) *Tragedy:* This approach would focus on the end result of unsafe driving and walking behaviors. PSAs or print advertisements could feature victims' families and/or pedestrian collision survivors as spokespeople, or depict the emotional state of a driver after a pedestrian collision.
 - 2) *Light-Hearted:* This approach would utilize humor to connect with residents and visitors and would be most conducive to using animation.
 - 3) *Neighborly:* This approach would emphasize the human connection among neighbors, drivers and pedestrians, resident and visitor, etc. Messages using this value would be warm, kind, and inviting—emphasizing that the City wants people to visit and for residents and visitors alike to have safe experiences walking around town.
 - 4) *Cool:* This approach would focus on reaching the youth population, particularly around making safety clothing more attractive and cool to wear (a "walker's wardrobe").

Different occasions, venues, and outlets may necessitate using one or more of the values identified by the community.

- **Safety Concepts That Need to be Communicated, By Road User**

- Pedestrians**

- Look before you cross, look both ways.
 - Avoid dark clothing at night.
 - Pedestrian fatality/injury statistics with racial/ethnic and age breakdowns

- Drivers**

- Plan enough time for your trip so you don't need to rush.
 - Speeding Kills—Need to Slow Down.
 - Encroaching into the crosswalk is unsafe.
 - Stay off road if emotionally or physically impaired.

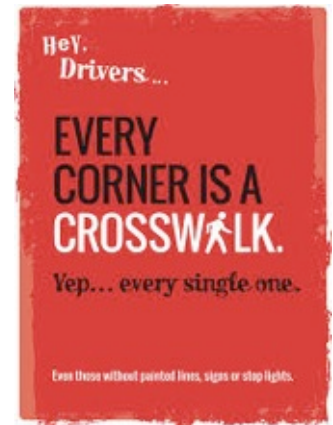
- Both Pedestrians & Drivers**

- No distractions while walking or driving.
 - Don't text and walk/drive
 - Need to be safe walkers and safe drivers.
 - Awareness of surroundings: Whether walking or driving, BE AWARE.

- **Potential Slogans for Pedestrian Safety Education Campaign(s)**

- Be Aware. Be Alert.
 - Every Corner is a Crosswalk.
 - Look, Scan, Cross.
 - Help Us Out.
 - What's the Rush Glendale? Enjoy Our City.
 - We Want You Here.

- **Targets for Education Campaign(s):** Community members agreed that the most at-risk pedestrian populations (older adults, Armenians) and the driver population most frequently responsible for pedestrian collisions (women, 40-60 year olds) should be the primary target of education efforts, with messages and outlets for dissemination tailored to these two groups.



EDUCATIONAL CAMPAIGN FROM MINNESOTA

Recommendations for Dissemination Strategies

- **Multilingual/Universal Graphic Approach:** Community members repeatedly underscored that any educational campaign undertaken by the City would need to be multilingual to reach as many residents and visitors as possible, with a priority on Armenian (due to older adult Armenians being overrepresented in pedestrian fatalities). Community members proposed using graphics and fewer words to overcome language barriers, as well as to better communicate concepts to both the very young and very old who may not be able to read.
- **Leverage Existing Events & Resources to Maximize Outreach:** Community members expressed interest in coordinating with existing events (e.g., Cruise Night, Outdoor Movie Festival) and existing awareness months (e.g., April—distracted driving month, October—

Walktober/Walk to School, etc.) to maximize the reach of any pedestrian safety education campaign. Community members also identified the Glendale Police Department's mobile billboards and changeable message signs as already existing resources that can be used in a pedestrian safety education campaign.

- **Implement Gateway Treatment & Signs at Entry Points to Downtown:** Gateway treatments act as a traffic calming measure—providing a visual cue to drivers that they are no longer on a freeway and are entering an urban environment that requires slower speeds for the safety of all road users. Community members proposed sign messages such as “Traffic Laws Enforced” or “Entering Safe City.” Gateway treatments can take the form of simple monument signs to more elaborate street spanning arches and are often used to convey a sense of neighborhood identity and sense of place. Generally, gateway treatments alone cannot discourage speeding traffic without additional traffic calming measures.
- **Safety Education Workshops/Trainings (Place-Based Education):** Community members identified schools (assemblies, curriculum, speakers' bureaus), Parent Teacher Association (PTA) meetings, senior and community centers, and churches as prime venues for the City to “go where people are” in order to provide pedestrian safety education workshops/trainings and other materials. For older adults, the City could consider adapting the “Watching Out for Us” older adult pedestrian safety education curriculum developed by the National Highway Traffic Safety Administration and rolling it out at senior centers to teach seniors defensive walking skills.
- **Cultivate Community Partnerships & Engage Local Businesses to Broadcast Pedestrian Safety Education Messages:** Community members highlighted, as did the PSTF, the importance of community partnerships to help broadcast the City's pedestrian safety education messages. Community members identified the following partners and dissemination strategy:
 - Churches: Flyers, Posters
 - Armenian TV Channels/Shows: PSAs, pedestrian safety stories/segments
 - Glendale News Press: Ads, Stories
 - Radios: PSAs
 - Chamber of Commerce: Flyers, Posters, Sponsoring Airtime for PSAs
 - Car Dealerships: Flyers, Posters
 - LA Metro: Bus Kiosk Ads
 - Grocery Stores: Flyers, Posters
 - Americana and Galleria: Posters
 - Move Theaters: PSAs
 - Gyms: Flyers, Posters
- **Print Safety Messages on Tangible Items:** Several community members expressed the need for safety messages printed on tangible items, such as silicone wristbands, yard signs, or bumper stickers. The bumper stickers could be paired with recipients taking a pledge to drive more safely (i.e. the Neighborhood Pace Car Model).
- **Explore Feasibility of Street Memorial/Art Installation:** Aligning with community members' wish that pedestrian victims are not forgotten, one suggestion was to establish street memorials for

pedestrians equivalent to “ghost bikes” (bikes painted white and chained to a location where a bicyclist is killed). Another suggestion was to create a car crash display to viscerally depict the aftermath of a crash for the driver as well as the victim.

Other Community Recommendations

- **Establish Pilot Pedestrian Flag Program:** One participant proposed establishing a pilot pedestrian flag program within the City. Pedestrian flag programs involve: 1) placing high-visibility flags at City-identified crossing locations; 2) pedestrians crossing may elect to use a flag to help gain the attention of an oncoming motorist before crossing; and 3) once finished crossing, a pedestrian deposits the flag for the next pedestrian to use.
- **Establish Volunteer Program to Assist Seniors Crossing:** Community members expressed interest in establishing a volunteer program that would utilize boy/girl scouts, community groups, and/or school groups to help seniors arriving/departing senior centers and other facilities to cross the road safely. The program would align with facilities nearest pedestrian collision hotspots and include a volunteer training program. Volunteers would be awarded with community service hours. Additionally, high-visibility safety vests could be distributed to both volunteers and seniors at senior centers.
- **Secure Additional Technical Assistance** from UC Berkeley Institute of Transportation Studies (ITS) Technology Transfer Program for Pedestrian Safety Assessment (www.techtransfer.berkeley.edu/pedsafety) or Cal Poly Pomona for Road Safety Audit



PEDESTRIAN FLAG HOLDER, FORTUNA, CA

California Walks/SafeTREC Recommendations

California Walks and SafeTREC also submit the following recommendations for consideration by the PSTF and the City:

- **Citywide Advance Yield Line Policy & Implementation:** Any advance yield lines implemented by the City should be supplemented with a "Yield Here For Pedestrians" sign (R1-5 or R1-5a). The City should also consider installing advance yield lines to supplement any installed pedestrian hybrid beacons or rectangular rapid flashing beacons (RRFB) at midblock crossings.
Timeframe:
Short-Term (3-6 months) to develop/adopt advance yield line installation policy;
Long-Term (Ongoing) for Citywide Advanced Yield Line Implementation
- **Striping and Signage:** Since striping (crosswalks, advance yield and stop lines, various pedestrian signage and speed feedback signs) are low cost engineering improvements, it is recommended that the City review its budget and determine whether funding can be increased for such improvements. It is also recommended that the City apply for funding from LA Metro, Southern

California Association of Governments (SCAG), and state programs for such improvements.

Timeframe:

Short- to Intermediate Term (3-12 months) review current funding applications for potential inclusion of pedestrian signage and striping components;

Long-Term (Ongoing) for systematic inclusion of pedestrian signage and striping components in funding applications or in future sales tax or other self-help measures by City, County, region, or state.

- **Formalize/Adopt Pedestrian Safety Action Plan (PSAP) or Pedestrian Master Plan (PMP):** Since several PSTF recommendations related to the need for a public prioritization process for engineering improvements, we recommend that the City prepare and adopt a formal Pedestrian Safety Action Plan or Pedestrian Master Plan with a robust safety element. The development process of a formal plan would allow for extensive public input not only on what types of strategies the City should be pursuing but also which strategies and locations should be prioritized. Moreover, a formalized PSAP or PMP would better position the City to secure competitive grant funding for 6 E's implementation from sources such as the state Active Transportation Program or the state-administered Highway Safety Improvement Program.

Timeframe:

Intermediate-Term (6-12 months) to identify funding source and for preliminary scoping;

Long-Term (12-24 months) for plan development/preparation, public participation opportunities, and adoption

- **Establish Pedestrian Safety Guidelines:** In lieu of a formal PSAP or PMP, we recommend that the City compile all policies and procedures relating to pedestrian safety and facilities—including but not limited to, crosswalk placement policies, midblock crossing policies, neighborhood traffic calming resources, pedestrian signage and signal warrants and policies—in a single document for easy review by the public. We recommend looking at the City of Sacramento's Pedestrian Safety Guidelines (Department of Public Works, 2003) as a first step.

Timeframe: Short-Term (3-6 months)

- **Allocate/Secure Funding for Community Education Campaign:** Since community education campaigns generally have a much shorter startup period than infrastructure projects, we recommend that the City move forward with allocating internal funds or securing outside funds to launch an educational campaign. Community members who attended the evening workshop have provided a strong foundation from which to build a context-specific campaign for Glendale. Funding for educational campaigns are available from the California Office of Traffic Safety, state and regional Active Transportation Program, and potentially the California Department of Public Health's It's Up to All of Us program.

Short-Term (3-6 months) to identify funding source;

Intermediate-Term (6-12 months) to hire design/communications consultant;

Intermediate- to Long-Term (6-18 months) for development and public review of educational materials

- **Kenwood & Broadway:** If full signalization is not warranted, the City should consider implementation of a Rectangular Rapid Flashing Beacon (RRFB) or pedestrian hybrid beacon as alternatives.

Timeframe: Intermediate- to Long-Term (6-18 months)

- **Considerations for a Pilot Pedestrian Flag Program:**

The research on pedestrian flag programs is not extensive, with mixed and inconclusive findings. The only pedestrian flag program attempted in California of a city comparable in size to Glendale (population: 191,840) was Berkeley (population: 112,998). Berkeley's pedestrian flag program ran from 2001-2004 and, after evaluation was ultimately discontinued due to ineffectiveness: driver yielding to pedestrians did not increase; pedestrians may have erroneously felt more protected with a flag; and considerable ongoing replacement costs for stolen flags. Pedestrian flags are also difficult for those with mobility or balance issues to use (e.g., seniors, those using walkers, etc.)

- Several other cities in California have implemented at flags at a few locations. These cities are much smaller in size and population than Glendale.
 - San Carlos (population 28,444): Implemented flag program at one, low-volume intersection on San Carlos Avenue in response to a pedestrian collision. Staff reported that the flags did not improve unsafe pedestrian behaviors or driver yield rates. San Carlos removed the flags and replaced them with flashing beacons.
 - Menlo Park (population: 32,100): Flags were installed at 2 intersections with high rates of pedestrian collisions. Collision rates were observed to decrease after installation and if the flags are used. However, the City reported that many pedestrians do not use the flags or appear to be embarrassed to use them. The City still receives complaints from residents about feeling unsafe and driver behavior and is considering in-pavement flashers at 1 location.
 - Fortuna (population: 11,935): Program launched Summer 2012 at 5 intersections. Program is ongoing and faces flag theft challenges similar to other cities' programs, and will be launching an Adopt-a-Crosswalk program to fund ongoing replacement costs.
- Out of State Experiences with Pedestrian Flag Programs:
 - Successful programs outside of California can be found in Kirkland, WA (population 50,697) and Arlington, MA (population: 42,844). Again, these cities are much smaller in size and population than Glendale, which may have an impact on a pedestrian flag program's success.
 - Seattle, WA (population: 610,409): Pedestrian crossing flags were installed at 17 locations under a pilot program from 2008-2011. The City's evaluation found that overall, having a flag available seems to make pedestrians more visible to motorists but there was not a consistent pattern of improved driver yielding when flags were in use. Seattle has discontinued the program, leaving the flags from the pilot in place but no longer replacing any stolen or missing flags. Seattle has allowed for community sponsors (residents or neighborhood organizations) to maintain

locations from the pilot, as well as to establish new locations that meet guidelines and without municipal funding.

- Salt Lake City, UT (population: 186,548): Salt Lake City has maintained a pedestrian flag program since 2000, with 47 flag locations maintained by the city and an additional 203 maintained by schools, local businesses, and community groups. The flags in Salt Lake City program are used mostly on streets near the downtown area that have speed limits of 30 mph or less. Field studies conducted in NCHRP Report 562 found pedestrian crossing flags in Salt Lake City and Kirkland to be moderately effective.

Cal Walks and SafeTREC believe that other education, enforcement and engineering measures (such as high visibility crosswalk markings, increased signage, and rectangular rapid flashing beacons) have a more demonstrated track record of effectiveness and success in improving pedestrian safety than pedestrian flag programs.

If the City elects to approve a pedestrian flag program, it is recommended that a complete engineering study before and after be included for the pilot location selected for the program. Such an evaluation should include pedestrian and driver volume counts, yielding patterns, count of pedestrian violations and driver violations of pedestrian right-of-way, crash data, presence or absence of crosswalk markings, rates of usage of flags by pedestrians to measure the program's impact on safety and road user behavior.

ACKNOWLEDGMENTS

We would like to thank the City of Glendale for hosting the Community Pedestrian Safety Training. Thank you to Roubik Golanian and Anush Beglaryan of the Glendale Department of Public Works, as well as Transportation & Parking Commissioner Maro Yacoubian, who provided leadership and organizational support in planning the workshops.

We would like to acknowledge the City employees and community members who attended the workshops.

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