

DESIGN TOOLKIT: INTERSECTIONS

PEDESTRIAN AND BICYCLE SPECIFIC SIGNALIZATION



Where feasible additional pedestrian and/or bicycle specific signaling can improve accessibility and facilitate crossings at major intersections, especially streets with high traffic volumes.



HAWK Signal



Toucan Signal

HAWK (High-intensity Activated crosswalk) can alert drivers to pedestrians crossing, or require drivers to yield or stop. The HAWK can improve pedestrian safety, especially at mid-block crossings and busy arterial streets.

LOCATION CRITERIA: When a Green Connection crosses a busy arterial

Toucan (Two Can Cross) can accommodate pedestrians and bicyclists; signaling can include a bicycle icon and a person icon and marks distinct paths of travel for bicycles and pedestrians. Treatments can include a pedestrian crosswalk and an adjacent bicycle path with green sharrows.

LOCATION CRITERIA: When a Green Connection crosses a busy arterial midblock





Rapid Rectangular Flashing Beacons (RRFB) can alert drivers to pedestrians crossing. The flashing amber LED lights are activated with a push button to alert motorist to the presence of pedestrians in a crosswalk. A recent study by the Federal Highway Administration found drivers are more likely to yield when RRFBs are installed.

LOCATION CRITERIA: When a Green Connection crosses a busy arterial midblock



INTERSECTION MURAL







Intersection murals can calm traffic and build identity for the neighborhood. They can be designed and implemented through a community process.

LOCATION CRITERIA: When a Green Connection crosses a residential street with low traffic volumes



4 STANDARD BULBS WITH STOP FOR CROSS TRAFFIC





Corner bulb-outs can extend the sidewalk into the parking lane to narrow the roadway and provide additional pedestrian space. Corner bulb-outs can enhance pedestrian safety by increasing pedestrian visibility, shortening crossing distances, slowing turning vehicles, and visually narrowing the roadway.

Generally, benefits are greater the further the bulb-out extends into the roadway and the tighter the turn radius created by the bulb-out, but should be balanced against other needs. Bulb-outs can often be extended to create public spaces, landscaped areas, or transit waiting areas.

ACTIVE		URBAN		PLACE-	ABILI	TY TO	TRADE-	
TRANSPORTATION		ECOLOGY		MAKING	IMPLE	MENT	OFFS	
Support	Support	Calm	Manage	Enhance	Potential Increase in	Cost Effective	Ease of	Parking Loss &
Pedestrians	Bikes	Traffic	Stormwater	Habitat	Usable Public Space	(Low cost scores highly)	Maintenance	Auto Access
								No Parking Loss or Auto Access Changes

LOCATION CRITERIA: Can be applied at all intersections







TRAFFIC CIRCLES

Traffic Circle

Traffic Mogul

Traffic circles can provide opportunities for greening, stormwater management, a visual relief in wide streets, and calm traffic speeds.

TRAFFIC CIRCLE A raised island can be placed in the center of an intersection, everyone passing through the intersection must yield to others but may not be required to stop.

LOCATION CRITERIA: When a Green Connection crosses a street with low traffic volumes

Traffic Moguls function similarly to traffic circles. They can be useful in situations where traffic circles may not fit, or to accommodate wide-turning vehicles such as trucks or buses.
They are slightly raised bumps in the center of an intersection. Cars can navigate the mogul as if it were a traffic circle or as if it were a speed bump.

LOCATION CRITERIA: When a Green Connection crosses a residential street with low traffic volumes, where tight geometry prohibits a traffic circle; OR at intersections that must accommodate larger vehicles.













DESIGN TOOLKIT: INTERSECTIONS

SUPER BULB

A Super Bulb can reduce traffic volumes on Green Connections by restricting auto access in some directions. The Super Bulb can create additional public space and greening potential.



SUPER BULBS (Moderate to Low Volume Crossing) are wider corner bulbs that extend into the right of way and divert auto traffic in some directions. Movement of pedestrians, bicycles, or emergency vehicles is not restricted.

LOCATION CRITERIA: When a Green Connection crosses a street with low to moderate traffic volumes



SUPER BULBS (High Volume Crossing) At intersections where cross streets have fast-moving traffic, Super Bulbs can be designed with enhanced pedestrian and bicycle crossing amenities such as striping and signalization.

LOCATION CRITERIA: When a Green Connection crosses a major arterial with a bike lane



ACTIVE		URBAN		PLACE-	ABILITY TO		TRADE-	
TRANSPORTATION		ECOLOGY		MAKING	IMPLEMENT		OFFS	
Support	Support	Calm	Manage	Enhance	Potential Increase in	Cost Effective	Ease of	Parking Loss &
Pedestrians	Bikes	Traffic	Stormwater	Habitat	Usable Public Space	(Low cost scores highly)	Maintenance	Auto Access
								Potential Parking Loss at Intersection Restricts
								Some Auto Access

INTERSECTION ISLAND









Intersection Islands can create additional greening space and reduce traffic volumes on a Green Connection. This treatement diverts automobiles from the Green Connection, while allowing for pedestrian and bicycle access.

LOCATION CRITERIA: When a Green Connection crosses a street with low to moderate traffic volumes



DIVERTER







Diverters can reduce traffic volumes by forcing autos to turn. The diverter can also create greening space that could enhance urban ecology.

LOCATION CRITERIA: When a Green Connection crosses a residential street with low traffic volumes or when two Green Connections cross









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Bus Stop Street Parks can divert cars, create additional public space and provide a bus bulb for streets crossing a Green Connection. A Bus Stop Street Park can reduce auto traffic on the Green Connection and allow bicycle and pedestrian access.

LOCATION CRITERIA: When a Green Connection on a residential street with low traffic volumes crosses a street with high traffic volumes (e.g. Sloat Boulevard)











DESIGN TOOLKIT: BLOCKS

PARKING LANE PLANTERS





Parking Lane Planters create additional space for landscaping and street trees, which can calm traffic. Landscaped sidewalk extensions could be placed between parking spaces at regular intervals or at specific locations.

LOCATION CRITERIA: All street types, especially on streets with narrow sidewalks, where tree planting is limited by conflicts with utilities or driveways, or where there is a desire to visually narrow the roadway.





CHICANE





Chicanes can create new areas for landscaping and public space. A chicane is a series of alternating mid-block curb extensions or islands that narrow the roadway and require vehicles to follow a curving, S-shaped path. This can help to slow traffic and discourage speeding.

LOCATION CRITERIA: Low traffic volume streets



CHICANE + SIDEWALK WIDENING





A chicane (see left) combined with widened sidewalks can create larger areas for landscaping and public space.

LOCATION CRITERIA: Low traffic volume streets









CHICANE: BACK-IN ANGLED PARKING (1-WAY)





A chicane (see left) can include back-in angled parking and larger bulb-outs in instances where costs do not allow for extended sidewalks, or where more street parking is desired. A chicane with back-in angled parking could create expanded area of landscaping and public space. Back-in angled parking is preferred to front-loaded angled parking because it is safer for bikes.

LOCATION CRITERIA: Residential streets with low traffic volumes









DESIGN TOOLKIT: BLOCKS

NECKDOWN









Mid-block sidewalk extensions can create opportunities for greening landscaping and public realm amenities. Traffic is calmed through the mid-block lane reduction.

LOCATION CRITERIA: Low traffic volume streets

ACTIVE			URBAN		PLACE-	ABILITY TO		TRADE-
TRANSPORTATION			ECOLOGY		MAKING	IMPLEMENT		OFFS
Support	Support	Calm	Manage	Enhance	Potential Increase in	Cost Effective	Ease of	Parking Loss &
Pedestrians	Bikes	Traffic	Stormwater	Habitat	Usable Public Space	(Low cost scores highly)	Maintenance	Auto Access
								Limited Park- ing Loss at Corner (de- pends on bub-out length).

LANDSCAPED CENTER MEDIAN





Landscaped medians can create opportunities for greening, landscaping and public realm amenities. Landscaped medians can calm traffic, support urban ecology, and facilitate stormwater management.

LOCATION CRITERIA: Low, mid and high-volume residential and mixed-use streets along the Green Connections network

ACTIVE			URBAN		PLACE-	ABILITY TO		TRADE-	
TRANSPORTATION			ECOLOGY		MAKING	IMPLEMENT		OFFS	
Support	Support	Calm	Manage	Enhance	Potential Increase in	Cost Effective	Ease of	Parking Loss &	
Pedestrians	Bikes	Traffic	Stormwater	Habitat	Usable Public Space	(Low cost scores highly)	Maintenance	Auto Access	
								No Parking loss	

WIDE SIDEWALK GARDEN





Sidewalk widening can create space for greening and public space. Reduced travel lanes can enhance pedestrian safety by reducing the road width and calming auto traffic.

LOCATION CRITERIA: All street types, especially streets with excess road width









PLAY STREET









Play Streets can create large areas for public space such as a basketball court in the right of way. Traffic would be calmed with bulb-outs at the intersections and speed tables would be added next to the 'play area'.

LOCATION CRITERIA: Extremely low volume residential streets; dead-end streets





