The design of Green Connections will be context-specific, wedging the multiple project goals to inspire unique design solutions that build on existing streetscape design elements.

Green Connections project goals expand on the following urban systems:
- **Public Health**: Increase active transportation to parks
- **Sustainability**: Enhance urban ecology
- **Livability**: Support neighborhood stewardship and placemaking

In many instances, individual design solutions can address multiple project goals. For example, traffic-calming measures like curb extensions, medians or traffic circles may also provide opportunities for habitat creation, bio-retention planters (rain gardens) and/or programming opportunities.

In some instances limited space in the right-of-way or unique characteristics of the project site may necessitate a design that prioritizes only some of the goals, and particular characteristics of a street will inform the articulation of the Green Connections network, for instance streets along the bike network should account for cyclists’ needs in the design whereas segments on steep slopes, such as portions of the Ridge Trail near Mt. Sutro should focus on pedestrian comfort.

### Public Health
Increase active transportation to parks

- **Prioritize walking and biking.**
- **Calm traffic to support active transportation for all users.**
- **Focus on conflict points.**
- **Celebrate park edges to facilitate access to parks and open spaces.**

### Sustainability
Enhance urban ecology

- **Emphasize greening and street trees.**
- **Cultivate ecobuilding among San Franciscans.**
- **Incorporate target species and target habitat.**
- **Understand target species’ lifecycle.**
- **Create habitat structure.**
- **Consider habitat patch scale and density.**
- **Avoid habitat sinks.**
- **Include green infrastructure to manage stormwater.**
- **Increase planted areas in the ROW.**
- **Design for site hydrology.**

### Livability
Support neighborhood stewardship and placemaking

- **Engage communities in design and stewardship.**
- **Design for community gathering spaces.**
- **Program spaces to encourage stewardship and placemaking.**
- **Create wayfinding and signage:**
  1. **Strive for simplicity**
  2. **Integrate with other wayfinding systems**
  3. **Scale signage for active transportation users**
  4. **Develop a multi-tiered approach**
  5. **Express wayfinding through materiality**

---

**Green Connections Program Components**

**WALKING**

![Walking](image1)

**BIKING**

![Biking](image2)

**TRAFFIC CALMING**

![Traffic Calming](image3)

**STORMWATER RUN-OFF**

![Stormwater Run-Off](image4)

**WILDLIFE HABITAT**

![Wildlife Habitat](image5)

**SAN FRANCISCO PLANT DATABASE**

![San Francisco Plant Database](image6)

**ART**

![Art](image7)
The Green Connections Design Toolkit is a resource for community members, city agencies and designers when developing and implementing Green Connections routes. The Toolkit includes 20 intersection and block elements, to give communities a broad range of options for creating Green Connections routes in their neighborhoods. Toolkit elements include information that can inform a conversation about potential toolkits and benefits of different types of street improvements.

The Toolkit is not intended to be prescriptive; there may be situations where more than one element is appropriate for a given location. Similarly, there may be situations where design solutions not anticipated in the Design Toolkit are appropriate, and project designers are encouraged to use their judgment and creativity to design an intervention that best matches the site constraints and opportunities.

Each element in the Design Toolkit is presented with:

- A short description of the element and how it functions
- One or more illustrative graphics
- Location criteria describing what street types are appropriate for this element
- Design guidelines
- A chart and discussion of how the element performs in relation to Green Connections project goals

### Intersection Elements

| Toolkit Element | SF Practice | Design Toolkit | Design Toolkit
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NECK DOWN PARTIAL DIVERTER (HIGH VOLUME) INTERSECTION ISLAND</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Partial Diverter (High Volume)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Intersection Island</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Site Plan

- **DESIGN GUIDELINES**
  - Considering design elements into the design of diagonal diverters is strongly encouraged. It can create a desired focal point and sense of enclosure for the surrounding context. Green rectangles that comply with the Toolkit. Must comply with the Toolkit.

- **Diagonal diverters should be designed to maximize opportunities for greening, stormwater management and habitat creation.

- Consider incorporating programming elements like seating nooks, sculptural elements and informational or educational signage.

- Consider including a pedestrian pathway diagonally across the intersection, along the diagonal diverters.

- The design of diagonal diverters should seek to maximize the amount of space equipped from available circulation for enhanced greenery and community gathering spaces.

- **Diamon diverters should include an emergency vehicle path through the center where it intersects with a bicycle path of travel through the diverter. The path should be designed to discourage non-emergency vehicles from crossing the intersection. This can be achieved with a curb on one side of the path, a barrier on the other side, or a combination of both.

- A protected vehicle path should allow a vehicle to drive over the road but tall enough that a conventional car can drive over it, and a vehicle post that could be driven over by any vehicle but serves as a warning visual cue that this is not a dedicated vehicle path.

- The use of a narrow path, using asphalt (or a line of rubberized curbs) that is laid on each side, behind the diverter, designed to withstand the weight of an emerging vehicle.

- This treatment would not be appropriate on any street scale.

### Precedents

- **DIAGONAL DIVERTER**
  - Design tool kit does not include any diagonal diverters.

- **SITE PLAN**
  - The Toolkit includes 20 intersection and block elements, to give communities a broad range of options for creating Green Connections routes in their neighborhoods.

- **GUIDELINES**
  - Design tool kit includes 20 intersection and block elements, to give communities a broad range of options for creating Green Connections routes in their neighborhoods.

- **PRECEDES**
  - Toolkit Elements New to SF

- **BAR CHART**
  - A chart showing the percentage of each tool kit element, with bars indicating the level of use.

- **TOOL KIT ELEMENTS**
  - A chart showing the percentage of each tool kit element, with bars indicating the level of use.

- **SAMPLE TOOL KIT ELEMENTS**
  - A chart showing the percentage of each tool kit element, with bars indicating the level of use.

- **TRAFFIC AND PARKING CONSIDERATIONS**
  - A chart showing the percentage of each tool kit element, with bars indicating the level of use.

- **ABILITY TO IMPLEMENT**
  - A chart showing the percentage of each tool kit element, with bars indicating the level of use.

- **SITE IMPROVEMENTS**
  - A chart showing the percentage of each tool kit element, with bars indicating the level of use.

- **ADDITIONAL RESOURCES**
  - A chart showing the percentage of each tool kit element, with bars indicating the level of use.

- **SAMPLE TOOL KIT ELEMENTS**
  - A chart showing the percentage of each tool kit element, with bars indicating the level of use.

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The development of a citywide plant list was one component of the Green Connections project. We started by compiling existing City lists of recommended street trees and plants.

The plant database will be a resource for gardeners, designers, ecologists and community members. It provides planting recommendations for the public right-of-way and private backyards. For each plant, there will be helpful information including bloomtime, attractive features, size at maturity, site conditions, soil type, water needs, pruning needs, and information about habitat value and associated wildlife.

The content builds on existing city guidance on greening and landscaping and also offers route-specific information for greening along the Green Connections network.

The plant database was compiled using the following references and resources:

- Calflora.org
- “A Flora of San Francisco, 1958” by John Thomas Howell
- Horticultural consultation from botanists Gail Weschle and Jake Sigg of the California Native Plant Society
- San Francisco Department of the Environment, Peter Brastow, Biodiversity Coordinator
- “Recommended Street Tree Species List” by San Francisco Urban Forestry Council
- “San Francisco Sidewalk Landscaping: Recommended Tree List” by San Francisco Department of Public Works
- “San Francisco Sidewalk Landscaping: Recommended Drought Tolerant Plant List” by San Francisco Department of Public Works
- “San Francisco Stormwater Design Guidelines, Appendix D: Vegetation Palette” by San Francisco Public Utilities Commission

NOTE
These are conceptual designs of the plant database. The final user interface, site name, and site URL are subject to change.