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CHAPTER 1: INTRODUCTION

The Michigan Avenue Neighborhood Greenway Concept Plan is a visioning effort for the creation of a safe and inviting Neighborhood Greenway in the Pico Neighborhood. This chapter introduces the project, the study area, and the concept of a Neighborhood Greenway.
This document describes the community’s vision for a Neighborhood Greenway through the Pico Neighborhood in Santa Monica, from Bergamot to the Beach, after a year of public engagement. Moving forward over time, the City will use the Concept Plan as a blueprint for designing and implementing phased improvements along the corridor.

How to Use this Document

This document outlines the project process and proposes design criteria and implementation guidelines for the Michigan Avenue Neighborhood Greenway (MANGo) route. As such, this document may be used as a tool for a number of user groups including community members, planners, designers, and city officials. Planners may use this document to guide implementation and phasing of prioritized MANGo projects while community members may use this document as a tool for empowerment and City accountability. Designers can use this document as a guide as later phases are designed in more detail. This document may also be used as a foundational tool to apply for future funding and grant applications.

Origins of the Plan

Community Generated Concept

The seed of the idea for a Neighborhood Greenway along Michigan Avenue was generated several years ago by members of the Pico Neighborhood, who wanted to help develop a safe, calm, and attractive Michigan Avenue corridor. Over time, the idea of a network of Neighborhood Greenways across the City gained traction as a way to enhance active transportation options rooted in the community. A network of these people-centered corridors were included in the City’s General Plan Land Use and Circulation Element and the Bike Action Plan.

Grant-Funded Plan

In 2011, the City of Santa Monica was awarded an Environmental Justice Transportation Planning Grant from the California Department of Transportation (Caltrans) to conduct robust community outreach to inform conceptual designs of the Michigan Avenue Neighborhood Greenway (MANGo). The purpose of this grant program is to promote community involvement of low-income and minority communities in planning to improve mobility, access, and safety while promoting economic opportunity, equity, environmental protection, and sustainability.

Greenway Location

[Map of Michigan Avenue Neighborhood Greenway]
What is a Neighborhood Greenway?

Neighborhood Greenways are inviting and safe streets that provide ample amenities for all users. These livable corridors favor low speeds and local automobile trips over cut-through traffic, helping to create a comfortable experience for neighbors, pedestrians, and bicyclists of all ages and skill levels, particularly youth and seniors.

A high-quality Neighborhood Greenway can improve safety and quality of life and enhance the City’s urban fabric by reducing auto cut-through trips and auto speeds, improving bicycling and pedestrian connections, reflecting community values and spirit, and guiding users on the route, which helps them get where they are going.

Some of the design elements that can be used to create a Neighborhood Greenway include:

1. Sidewalk improvements, such as new lighting, special and/or permeable paving, landscaping and street furniture
2. Sustainability features, such as storm water management and permeable paving
3. Curb-extensions and crossing enhancements
4. Enhanced bike facilities and signage
5. Traffic calming, such as traffic circles, chicanes, and diverters.
6. Neighborhood-building elements, such as mini-parks, decorative pavement and public art
7. Signage and wayfinding
The Michigan Avenue Neighborhood Greenway (MANGo) is envisioned as a corridor of livable streets with enhanced facilities for pedestrians and bicyclists. The project is intended to build upon an inviting streetscape along the MANGo route. The goal is to provide a safe and comfortable place for neighbors of all ages to walk, bike, relax and interact with one another. Having a Neighborhood Greenway will make it easier to get around the Pico Neighborhood on foot and by bicycle, while still maintaining local automobile access. It will serve to connect residents and visitors with schools, job centers, future Expo stations and will improve the quality of the environment and enhance the livability of the Pico Neighborhood.

MANGo will run along Michigan Avenue with a beach connection on its west end and two prongs on the east. One route will connect over the 10 freeway to Bergamot, while another continues through the Pico Neighborhood to the south of the freeway.

For the purposes of defining certain solutions and respecting unique conditions along the corridor, this Plan divides the Greenway into four segments. From west to east they are: the Beach Connector, the Central Neighborhood Greenway, the Neighborhood Wiggle, and the Bergamot Connector. Upon final construction however, the intent is that the Greenway would read as one continuous facility. The map to the left depicts each segment:

- The Beach Connector
- The Central Greenway
- The Bergamot Connector
- The Neighborhood Wiggle

Identifying the Greenway

“...a really loving this whole idea! It’s great and provides a lot of safety!”

- Participant at Pop-Up MANGo event

The Beach Connector is envisioned as a connection around the Santa Monica High School (Samohi) campus to the beach. The Central Greenway is envisioned as a welcoming streetscape that offers a comfortable place for pedestrians and cyclists to walk or ride a bike between Lincoln Boulevard and 20th Street. The Bergamot Connector will create a new connection across 20th Street, eventually connecting to Stewart Street through Bergamot Station. The Neighborhood Wiggle is also envisioned as a pleasant streetscape as in the Central Segment, but one that jogs through the neighborhood.

Together, the four segments will form a facility that will link the Pico Neighborhood to the parks and schools in the area including Samohi, Edison Language Academy, Crossroads School, Virginia Avenue Park, and Stewart Park, to the beach and regional bike path, and to the planned Exposition Line and bike path that will connect Santa Monica to the greater Los Angeles region.
There are several existing policy and regulatory documents to which this Concept Plan relates. The project was developed to be consistent and coordinated with these documents. The goals and strategies presented in the MANGo Concept Plan are compatible with the long term visions presented in these documents. See right for guiding Santa Monica documents.

### Guiding Documents

**Sustainability Rights Ordinance, 2013**

Establishes a set of peoples’ rights for things like clean air and water, a sustainable energy future, and a sustainable natural climate. MANGo, when implemented, would support the City’s commitment to achieving these sustainable principles.

**Urban Forest Master Plan, 2011**

This document puts forth Santa Monica’s sustainable policies regarding the enhancement of the urban forest. The Plan provides guiding principles and goals that result in specific strategies to address the needs of the urban forest. The MANGo Concept Plan develops recommendations provided in the Master Plan to better match the new assumptions and design intent for MANGo as a unified corridor.

**Bike Action Plan, 2011**

The City’s Bike Action Plan describes the community’s priorities in support of developing bicycle infrastructure, education, and encouragement throughout the City. The document lays out a preliminary vision for the Michigan Avenue Neighborhood Greenway in terms of alignment and potential improvements. The plan also discusses other proposed bicycle amenities and facilities along or adjacent to MANGo. The MANGo Concept Plan is based on the recommendations included in the Bike Action Plan. In some cases, the recommendations have been revised based on community feedback. The Plan is guided and supported by Santa Monica’s 2010 Land Use and Circulation Element.

**Land Use and Circulation Element (LUCE), 2010**

The LUCE is a component of the City’s General Plan and establishes the City’s land use, urban design, and transportation goals and policies. The MANGo Concept Plan is consistent with the long-term framework provided in the LUCE and serves to realize many of the principles presented in the LUCE. Furthermore, the LUCE designates Michigan Avenue as a Bikeway and encourages the introduction of physical measures to reduce motor vehicles and volumes along Michigan Avenue.

**Sustainable City Plan, Revised 2006**

Provides guiding principles for sustainability from which effective and sustainable decisions can be made in Santa Monica, regarding resource conservation, smart transportation, environmental quality and public health. The MANGo Concept Plan is consistent with the Sustainable City Plan because of its emphasis on active modes of transportation, the reduction of vehicle miles traveled, low water and energy use, improved air quality, introduction of open space, trees, and vegetation, and support of livable neighborhoods.

**Open Space Element, 1997**

Explains the long-range vision for parks and open spaces. The document notes that the need for parks and open spaces is greatest in the Pico Neighborhood where MANGo is located. It also suggests enhancing streets, which are identified as the greatest resource of open space in the City, with landscaping and small gathering spaces. Connections to the beach are also important in the Open Space Element, which MANGo would also serve to create.

**Parks and Recreation Master Plan, 1997**

Lays a foundation for long range vision for parks and open space and for many of the improvements recommended in the MANGo plan, such as creating new neighborhood gathering places, converting street ends, and enhancing streets as open space.
Rationale for the Neighborhood Greenway

An Inviting Place to Be

During the Plan process, many Pico Neighborhood residents described a desire to enhance the aesthetics and the safety of their neighborhood. The goal of the concept design put forth here is, first and foremost, to create a sense of place along the route and to inspire a sense of pride and ownership in the neighborhood. To this end, enhanced streetscape, pedestrian lighting for safety, lowered speeds, and neighborhood building elements are the cornerstone of this Concept Plan.

Serving Santa Monica’s People

Over the past decade, Santa Monica, along with countless other cities around the US, has seen a shift in community preference toward active and diverse transportation options and an emphasis on the walkability and livability of neighborhoods. In addition, Santa Monica is poised to see a further shift in its transportation context when the Exposition Light Rail reaches Santa Monica in a few years. Ridership on the line is projected to reach 64,000 users daily by 2030. In the Pico Neighborhood specifically, residents already walk, bike and use public transportation to get to work in higher numbers than the rest of the City (see next page for a “Portrait of the Pico Neighborhood”).

Generally in the US, studies from 2001 to 2009 have shown that 16 to 34-year-olds are driving less frequently than this same age cohort has in the past. The National Household Travel Survey for example, has shown a drop of 23% in annual number of vehicle-miles traveled by this age group. This shift illustrates a desire and need for better accommodation of active forms of transportation in this neighborhood.

Focused on Safety

Analysis of available data, together with input from residents, has revealed that some of the streets on the Neighborhood Greenway corridor experience higher vehicular speeds and volumes, due to vehicular cut-through traffic. Many motorists use the MANGo streets as a shortcut to avoid traffic on the 10 Freeway and Olympic and Pico Boulevards, resulting in higher volumes and speeds within the residential setting of the Pico Neighborhood. The parallel boulevards are better suited for these regional automobile trips. The community has clearly expressed a desire for traffic calming and reduction of cut-through traffic in the Pico Neighborhood. Designing a Greenway for the MANGo corridor will serve the needs of a broad population, in age and demographics, and help re-route regional and pass-through traffic to these streets to create a safer street space along MANGo itself.

Economically Sound

In addition to walking, biking and taking transit to work in higher numbers than the rest of the City, Pico Neighborhood residents also own fewer cars. Two out of five households in the neighborhood only have access to one car, while one in ten households do not have access to a car. This pattern of reduced dependence on the automobile is beneficial to residents. According to a 2013 report produced by the American Automobile Association (AAA), the average cost of automobile ownership is over $9,000 per year. This figure includes maintenance, fuel, tires, insurance, and depreciation. The money saved can instead be used to meet residents’ daily needs.

A Multi-Modal East-West Connector

The Greenway seeks to prioritize bicycle, pedestrian, and local automobile trips over cut-through traffic. A dedicated Greenway along the identified route provides the opportunity to improve connections for a diverse range of users for both local trips and regional trips utilizing transit. Providing a legible and inviting link for pedestrians and cyclists along the Neighborhood Greenway would provide enhanced access to many local destinations and fill a gap in the City’s growing bikeway network (see map, below). South of the freeway, Pearl Street is the northernmost bicycle facility, which has many stop signs and has substantial grade changes. There are also insufficient bicycle connections to Santa Monica High School, which has heavily traveled streets on all four sides.
The Pico Neighborhood, through which the majority of the MANGo traverses, is located in the center of the City and bisected by the 10 Freeway. The Pico Neighborhood is the most ethnically diverse neighborhood in Santa Monica and is home to many significant community and regional institutions, including Santa Monica High School and Santa Monica College. The Bergamot Station Arts Center area has the City’s greatest concentration of creative jobs and is the future location of the Exposition Light Rail Bergamot Station.

Michigan Avenue is lined with mainly multi-family residential uses between 7th and 20th Streets. To the west of 7th Street, the corridor is characterized by civic uses including Santa Monica High School, City Hall, and a County Courthouse. To the east of 20th Street, the corridor is bordered by mixed industrial and institutional uses to the north of the 10 Freeway and primarily mixed single-family and multi-family residential uses to the south.

Those living in study area travel to work nearly twice as much via public transportation or on foot than do residents of the City of Santa Monica as a whole.

Demographic projections of the Pico Neighborhood indicate that more residents are already walking, biking, and using public transportation to get to work when compared to Santa Monica residents as a whole. Residents within the study area also own fewer cars than the overall Santa Monica average. According to the 2010 American Community Survey by the US Census Bureau, 21% of the working-age residents of the Pico Neighborhood walk, bike or take transit to work, which is a higher percentage than the rest of Santa Monica. On average, the 9% of residents in households within the Pico Neighborhood study area do not have access to a car, compared to 3% for the City of Santa Monica. Additionally, 41% of households have access to only 1 car in the study area. Less vehicle ownership suggests a more transit and active transportation reliant population. It is anticipated that this will only increase once the Expo line begins service.

Furthermore, there has been an increase in school-aged residents within the study area. This population of school students would benefit from the Greenway to reach schools and parks. At the other end of the spectrum, the population of 65+ adults is expected to rise by a 2-4% share.

These individuals may benefit from enhanced and increased transportation options, calmed roadways, and an improved perception of safety and accessibility along the Michigan Avenue Neighborhood Greenway.
Existing Conditions on the Corridor

Currently the Central Greenway and the streets within the Wiggle Segment are characterized by a mature tree canopy and two-lane streets with parking on either side. Cyclists are already using these streets for local and regional trips. Typical roads have landscaped parkways adjacent to the sidewalk with varied types of planting. Lighting is auto- rather than pedestrian-oriented and is often blocked by the dense tree canopy. Some intersection enhancements have been implemented at major intersections along the route, in addition to where the corridor intersects with 20th Street and Cloverfield Boulevard and includes new crosswalks, lighting, bulb-outs, and planting. Roadway widths vary, but typically: Michigan Avenue and 22nd Street have 60ft right-of-ways (ROW) with 40ft curb-to-curb; 19th Street and Delaware Avenue have 60ft ROWs with 36ft curb-to-curb; and Virginia Avenue and Kansas Avenue have 50ft ROWs with 30ft curb-to-curb.

The Beach Connector has a varied character, from wider, landscaped and busier roads through the Civic Center to narrower streets with lighting and without street trees as the route approaches the beach.

Michigan Avenue within the Bergamot Connector does not have consistent street trees and has an intermittent parkway. The route goes through Bergamot Station and private property owned by Agensys to Stewart Street. This area is characterized by the Bergamot Station parking lot, and the public Agensys pathway, pictured right.
The American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities suggests that average daily traffic (ADT) volumes for vehicles on Neighborhood Greenways should be at or below 3,000 and the National Association of Transportation Officials (NACTO) Urban Bikeway Design Guide suggests designs for volumes under 1,500 with up to 3,000 allowed in limited sections. For safety and comfort, the MANGo Concept Plan recommends maintaining volumes at or below 2,000 ADT to create a street environment that is conducive to cycling and walking, at a speed of 20 miles per hour (mph) or less.

Existing traffic volumes on the Michigan Avenue corridor exceed this threshold on the segment between Lincoln Boulevard and 17th Street and on Delaware between 20th and 22nd Street. East of 17th Street, the existing traffic volumes on Michigan Avenue and the Virginia Avenue portion of the route fall below the target ADT threshold and are generally considered acceptable for shared use of the roadway.

Currently, the speed limit along the corridor is 25 mph. The typical speed of cyclists is between 8 and 20 mph, and pedestrians cross the street at 3-4 mph. It is desirable to design streets to reduce motor vehicle speeds below 20 mph when cyclists are expected to share space with motor vehicles and to increase pedestrian comfort and safety. Speed reduction is also necessary to facilitate eye-to-eye negotiations between cyclists, pedestrians, and motor vehicle drivers. As speeds increase beyond 20 mph, the inability to communicate intent or to react increases the risk of conflict and collision. Keeping vehicle speeds below 20 mph greatly increases the chance that a collision will not result in serious injury or fatality. As impact speeds increase above 20 mph, the risk of serious injury or fatality increases in exponential proportion.
Traffic collision data from 2009 through 2012 was collected from Santa Monica Police Department for all intersections located along the study corridor, including intersections west of Lincoln Boulevard along Olympic Drive, which could be part of the alignment of the Western Segment, Beach Connector.

Collision data was analyzed for three collision types:

- Automobile Only Collisions
- Bicycle and Automobile Collisions
- Pedestrian and Automobile Collisions

A correlation between road segments with higher Average Daily Traffic (ADT) counts and an increased collision rate was observed in the Corridor for instance along Olympic and Pico Boulevards. Traffic counts also show that the largest ADT along the corridor are occurring on Michigan Avenue between Lincoln Boulevard and 17th Street, and on Delaware Avenue between 20th Street and 22nd Street. These were areas also identified as conflict zones by community members during the project’s walking and biking audits. Traffic calming is a possible solution in this situation. As a rule, traffic calming measures such as traffic circles, bulb-outs, turn or through restrictions, and one-way directional controls are suitable for roads that experience a high ADT.

Collisions involving pedestrians were highest in the Western Segment of the corridor, especially at Lincoln Boulevard and Olympic Boulevard, Michigan Avenue and 7th Street, and Olympic Drive and 4th Street. This high collision count at Lincoln Boulevard and Olympic Boulevard is likely a result of its close proximity to the freeway, high traffic volumes, and a large curb radius that favors vehicles over crossing pedestrians.
Collisions involving bicyclists on the MANGo corridor were highest at Lincoln Boulevard and Olympic Drive and at Delaware Avenue and Cloverfield Boulevard, both of which are areas with freeway interfaces that tend to increase traffic volumes.

The Santa Monica Bicycle Action Plan has called out 7th Street, 11th Street, and 14th Street as proposed buffered bike lanes and 17th Street as a Bike Path/Multi-Use Trail. These connections will also benefit from the proposed MANGo route. Shifts to cycling trips on these less traveled streets may help reduce the number of bicycle collisions occurring along Pico and Olympic Boulevards.
Vehicle collisions were also highest on the MANGo route at Lincoln Boulevard and Michigan Avenue and at Cloverfield Boulevard and Virginia Avenue.

Over the four year study period, the collision data highlights distinct locational clusters with the highest rate of collisions across all three modes. The areas are near major cross-streets of the corridor including 4th Street, Lincoln Boulevard, and Cloverfield Boulevard. This is not surprising, as these cross-streets provide freeway access and serve the highest number of vehicles during the peak hour and daily time periods.
CHAPTER 2: COMMUNITY PROCESS

The Michigan Avenue Neighborhood Greenway Concept Plan is based on a robust community engagement program that reached hundreds of residents and included interactive workshops, in-the-field bicycle and walking audits, small group stakeholder meetings, and a temporary Pop-Up event that showcased potential improvements in the street. This chapter lays out the community process that helped generate the design concept.
Visuals from Pop-Up MANGo, Santa Monica’s and Southern California’s first pop-up planning event
Four Community Workshops, including the Pop-Up MANGo Interactive Planning Event

The MANGo visioning process was rooted in a strong foundation of community input, starting with a community workshop during project kick-off and goal setting in late 2012, continuing with the Pop-Up MANGo Interactive Workshop in September 2013, and culminating with two final community workshops in December 2013 and January 2014.

Pop-Up MANGo was the first event of its kind in Southern California and was fun and community-oriented with local musicians, food trucks, booths with local organizations, arts activities for children, and a ‘passport’ program that guided people through the temporary installations and gauged feedback. There were over 400 people in attendance. The event was designed to help MANGo continue to develop as a locally-rooted and locally-vetted project.

The Pico Neighborhood Association (PNA) and Santa Monica SPOKE (SM Spoke) were advisors throughout the process, involved in team meetings, workshop planning, direct outreach, and idea generation.

Multiple Stakeholder Meetings and Presentations

Throughout the process, additional small-group stakeholder meetings were held between November 2012 and February 2014 to gather ideas and vet strategies. Meetings were held with the following groups:

- Commission for the Senior Community
- Commission on the Status of Women
- Disabilities Commission
- Edison PTA & ELAC
- Planning Commission
- Recreation and Parks Commission
- Samohi PTSA
- SMC Transportation Task Force
- Social Services Commission
- Task Force on the Environment
- Virginia Avenue Park Advisory Board
- Virginia Avenue Park Parents

Pop-Up MANGo was the first event of its kind in Southern California. It brought out over 400 community members with local musicians, food trucks, booths with local organizations, and arts activities for children. A ‘passport’ program guided people through the temporary street installations to gauge feedback.
The Neighborhood Walk Audit

The first phase of the project began in November 2012. In this preliminary phase, the design team kicked off the project with meetings with community representatives, analysis of existing conditions, project goal setting, and coordination with other planning efforts. To introduce MANGo to the neighborhood, staff met with the Pico Neighborhood Association on December 13, 2012 and the Virginia Avenue Park Advisory Board on February 4, 2013. This phase also included a Community Workshop that incorporated a bilingual bicycle and walking audit of the Corridor. Starting off at Virginia Avenue Park, community members acted as auditors, walking or biking along particular stretches of the corridor to mark down what they liked and what they thought could be improved within the urban realm. All of the feedback was compiled into an Existing Conditions Report and laid the groundwork for the alternatives generated later on.

Phase 2: Preliminary Alternatives Generation

Community Workshop #2: Pop-Up MANGo

After the first community workshop, the design team began to generate potential improvement strategies based on community feedback. A toolkit of strategies and three preliminary alternatives for the Corridor were generated and vetted with stakeholders including representatives from the following Departments: Police, Fire, and Public Works. Board and Commission presentations were also held in this phase.

This phase culminated in the second large community workshop, called “Pop-Up MANGo,” a community festival and interactive temporary installation of potential improvements in the street.

Phase 3: Alternatives Refinement

Community Workshops #3 and #4

After Pop-Up MANGo, the design team compiled feedback and crafted the preferred concept based on community input and further vetted it in meetings with community groups. Two community workshops were held in December 2013 and January 2014.

Phase 4: Concept Plan Development & Adoption

Presentation to City Council

Taking all of the community input to date, the Concept Plan was then compiled and presented to City Council for review.
Streams of Communication

Digital invitations, door-to-door bilingual outreach by the PNA along with bilingual door hangers for residents in and around the project area, social media announcements, direct outreach through phone calls and emails, and press releases along with outreach at the Farmers Market and on posters posted at neighborhood destinations helped to spread the word about the project and the public events.

The project emphasized bilingual outreach and community engagement, with Spanish translation at all workshops and invitations and announcements in both Spanish and English.

Outreach to inform community members about the project and encourage attendance at the workshops included:

1. **Regular direct outreach to and collaboration with:** neighborhood organizations and community groups, such as the Pico Neighborhood Association, Santa Monica Spoke, and Samohi. Small group meetings and mini-workshops.

2. **Online presence:** Project website, Citywide and Departmental Facebook and Twitter accounts.

3. **Press Releases:** to both newspapers and blogs focusing on Santa Monica and active transportation. This included a series of articles in Seascape, the City’s community newsletter.

4. **Specific outreach for workshops 1 and 2:** Bilingual digital invites, blog postings, posters, phone calls, postcard mailers, door hangers hung on all doors within the project area, posters at the City’s farmers markets, and door-to-door bilingual outreach. Specially-designed temporary signage program on corridor two weeks prior to Pop-Up MANGo event.
Community Workshop #1 was held early-on in the planning process to focus in on the vision and goals for the project and to look at the opportunities along the corridor. During the workshop, project team members introduced the project, discussed the components and character of a “Greenway,” and discussed how the project relates to City sustainability, social equity, and mobility goals.

A question and answer session was held and following this session, teams of community members performed walking and biking audits along the study corridor, identifying opportunities for improvement at specific stops along the way.

Participants also gave feedback on the safety, comfort, usability, and sense of place along the corridor. Feedback was gathered on bilingual Spanish/English walk and bike audit forms, general assessment checklists, and a large note pad that was set up in the meeting room. A total of 54 community members signed in and a total of 45 audit forms were completed and submitted.
Workshop #1 Walk and Bike Audit Feedback

Many respondents pointed out traffic and vehicle speeds as major issues for the study area, which they wanted to see addressed through traffic calming and better emphasis on walking, biking, and gathering space on the street. Many participants expressed the need for pedestrian enhancements on the sidewalk and the need to introduce improvements for cyclists of all ages and abilities. Community members noted particular pedestrian and bicyclist inconveniences during their walking and biking audits. Lighting was noted as an overall issue. Signage and amenities were considered to be lacking leading to and within Bergamot Station, and connections at the intersection of Cloverfield Boulevard and Delaware Avenue were perceived to need improvement.

Neighborhood Themes

- Increase landscaping
- Enhance the pedestrian experience
- Enhance the cycling experience for riders of all ages and experience levels
- Increase lighting for nighttime safety
- Resolve road conflicts
- Traffic calming devices
- Bike amenities
- Better maintenance
- Improved aesthetic quality
- Slow traffic
- Celebrate the diversity of the Pico Neighborhood
- Increase signage and wayfinding
- Enhance crosswalks

Where Workshop Attendees Live

Workshop #1: How Many People Participated?

- 54 Community attendees signed in
- 45 Total audit forms completed
- 18 Bike audit forms submitted
- 27 Walk audit forms submitted
**Workshop 2: Pop-Up MANGo**

**Date / Location:** Sept. 21 2013, Michigan Avenue Between 9th and 12th Streets.

**Topics:** Vetting design ideas, community building, temporary demonstrations, fun for neighborhood!

**Special Features:** Three-block temporary installation of proposed improvements. Street fair, food trucks, music, art workshop, and stations for feedback. Bike valet.

Workshop #2, Pop-Up MANGo, brought the idea of pilot, pop-up, and tactical urbanism into the planning process, with a festival/workshop/installation called Pop-Up MANGo, the first event of its kind in the region. Pop-Up MANGo gave citizens an opportunity to see and evaluate public realm improvements during the planning process, hands-on. Pop-Up MANGo showcased temporary installations of possible improvements for a new Greenway corridor such as: traffic calming devices, traffic circles, chicanes, curb extensions, enhanced landscaping, mini-parks, and places for neighbors to gather.

The 21st Century has been marked by a trend of temporary and DIY urbanism, “popping-up” in cities around the US, from New York’s temporary removal of cars in Times Square, to parklets and plazas carved from residual space in the streets of San Francisco and Los Angeles. Urban dwellers are increasingly carving out, demanding, and being drawn to these creative and quirky spaces, in a bottom-up approach to urban transformation. And with NACTO’s recent release of their great Urban Street Design Guide, which includes guidelines for many of these sorts of improvements, it looks like these trends will increasingly be codified, embraced, and standardized over the coming years.
Pop-Up MANGo translated this idea of immediate, fun, temporary, and quirky pop-ups into the planning process itself, with demonstrations of potential improvements. The Pop-Up MANGo event was engaging and community-oriented with local musicians, food trucks, booths with local organizations, arts activities for children, and a ‘passport’ program that guided people through the installations and gauged feedback. There were over 400 people in attendance and the feedback gathered helps to assure that the plan is locally-rooted and locally-vetted.

Pop-Up MANGo’s toolbox consisted of mostly donated items:

- Straw wattle to demarcate the edges of the installations
- Plants and trees to fill installations in
- Giant flower stencils painted with colorful (and temporary) spray chalk
- Traffic signage for safety

Community members visited each installation by foot or bike and stopped at event hubs located at 9th and 12th Streets to give feedback. During the event, bilingual staff, wearing large “Pregúntame” buttons, was on site to provide Spanish translation. Two SM SPOKE-sponsored biking tours of the entire corridor were offered, along with additional interactive activities located at the Pop-Up MANGo hub locations. These included interactive planning workshops, food trucks that supplied free food for participants, a kids art workshop, music and Q&A sessions with the team to fully engage the stakeholders in the process, and multiple stations for residents to leave feedback.

Prior to the Pop-Up MANGo event, the project team developed a prototype wayfinding system for the corridor and a temporary, on-site signage program was installed on the Corridor two weeks before the event.
Pop-Up MANGo Feedback

Over 400 people turned out for Pop-Up MANGo to give their input. Attendees were excited about the project and most participants agreed on the desire for traffic calming, greening, and enhancing the sustainability of the corridor. Traffic circles and slow movement intersections were the most desired traffic calming improvements, and lighting and greening were the most desired streetscape amenities. Many residents voiced a desire to maintain current on-street parking and did not favor any options that required significant loss of parking.

How Many People Participated?

▶ 402 Event passports distributed
▶ 309 Lunch coupons distributed
▶ 268 Comment cards collected
▶ 254 Attendees signed-in

Who Participated in the Workshop?

73%

Of Attendees Were Pico Neighborhood Residents*

*Based on the total number of attendees who responded to the question: “Are you a Pico Neighborhood Resident?”

What Traffic Calming Elements did Community Members Like?*

- 82% Traffic Circle
- 73% Bike Sharrow
- 71% Slow Movement Intersections
- 66% Cycle Track
- 63% Bulb-outs
- 58% Chicanes
- 55% Traffic Diverter

What Other Elements were Desired?

- Lighting: 4.5
- Greening/Landscaping: 4.4
- Crosswalks: 4.2
- Mini-Park: 3.9
- Bike Push Buttons: 3.8
- Public Art: 3.7
- Signage: 3.6

What Locations did Attendees Want to See Included on Greenway Directional Signage?

- Samohi
- Lincoln Business District
- Virginia Avenue Park
- Santa Monica College
- Bergamot Station
- Future Expo Line Stations
- Pico Farmers Market
- Woodlawn Cemetery
- Santa Monica Pier
- Santa Monica State Beach
- Coffee Bean
- Dog Park
- Tongva Park
- Edison Elementary
- Parking Locations
- 3rd Street Promenade

*Percentages above reflect the opinions of PNR (Pico Neighborhood Residents). Overall totals displayed similar results.

**Gray numbers reveal PNR "yes" votes out of the total number of PNR responses.

***The majority of those that voted 'Yes' for the Cycle Track option stipulated that they would only support this if a strategy to minimize parking loss were presented. Additionally, many residents did not support the proposal of introducing perpendicular parking as a strategy.
Pop-Up MANGo: Setting Up!

Potential Home of The Michigan Avenue Neighborhood Greenway MANGo

Please join us for Pop-Up MANGo:
A Temporary Greenway Installation and Free Community Festival

Saturday, September 21
11am – 3pm

On Michigan Avenue between 9th Street and Euclid Street

For more information visit www.mangaonmichigan.org

TUESDAY
Pop-Up MANGO: Giving Feedback at the Temporary Installation Stations!
Pop-Up MANGo: Food, Music, and Fun!
Pop-Up MANGo Social Media

Event participants were invited to engage, share, and document their experiences on various social media websites throughout the event.

By tagging Instagram photos, Tweets, and Facebook posts with “#popupmango,” posts were searchable by the MANGo team and by community members.

Santa Monica’s CityTV produced a short piece about the event.

Two short videos of the exciting day were uploaded to YouTube to recap the Pop-Up Mango event.

This hashtag was used during the event for participants to share and document their experience on social media platforms.
Workshops #3 & #4: Community Refinement

Date / Location: December 9, 2013 and January 7, 2014, Virginia Ave Park

Topics: Preliminary Concept Review. Refinement.

Special Features: Bilingual Spanish/English meeting. Presentation, open house, & discussion.

Community Workshops #3 and #4 were held once initial strategies had been compiled by the design team after the Pop-Up MANGo event. Held at Virginia Avenue Park, a site along the MANGo alignment and in the Pico Neighborhood, the Workshops previewed the proposed streetscape and traffic calming tools and then allowed community members to look at boards and gather around project maps to discuss the proposed improvements and leave their feedback.

Over 40 people attended Workshop #3 and over 60 people attended Workshop #4.
From the community workshops, stakeholder meetings, and commission meetings, several clear messages emerged as goals for the Michigan Avenue Neighborhood Greenway. Many respondents pointed out traffic volumes and speeds as major issues along the Corridor, which they’d like to see addressed through traffic calming and a more multi-modal emphasis on the street. Overall, workshop attendees were supportive of the effort to improve the walk and bike environment by reducing cut-through traffic to make the MANGo route a more neighborhood-serving facility.

Many participants expressed the need for pedestrian enhancements and the need to introduce improvements for cyclists of all ages and abilities. A few comments discussed the need to “think big” and introduce improvements that would more adequately respond to the needs of pedestrians and cyclists, such as dedicated bike-facilities and sidewalk widening. With the inclusion of these facilities, residents voiced concern for adequate parking, and requested that changes to the streetscape and roadway minimize future impacts on parking. As such, all the goals synthesized from these workshops incorporate the need to preserve parking as much as possible in the Pico Neighborhood.

The project goals are listed to the right and are reflective of the analysis generated from all public meetings. The goals will be addressed in the following chapters.

**MANGo Greenway Design Goals**

1. **Goal 1:** Slow Traffic Down
2. **Goal 2:** Encourage Neighborhood Walking, Biking, & Mobility
3. **Goal 3:** Make Creative & Safe Community Space for All Ages
4. **Goal 4:** Enhance with Greening & Sustainable Features
CHAPTER 3: ENVISIONING MANGO

This chapter describes the overall vision for the MANGO Corridor and explains the proposed improvements within the project's four character areas. Each of the proposed improvements that are described in the pages that follow aim to address the goals and vision of the project brought forward by members of the community.
The Michigan Avenue Neighborhood Greenway will connect the Pico Neighborhood to local destinations, parks, schools, work, and home. It will provide a pleasant and safe street, one with a friendly and creative character. MANGo will support walking, jogging, biking, and other activities, while vehicular traffic is managed, slowed, and/or re-routed to other more vehicular-oriented thoroughfares.

The vision for MANGo has been crafted by the Pico Neighborhood community and is oriented toward neighborhood amenities. The four goals below, also described in Chapter 2, came out of the community visioning process. These goals are broken down into three categories of improvement in order to facilitate design and implementation, 1) Neighborhood-Building, 2) Sidewalk Improvements, and 3) Traffic Calming.

**Community Goals:**

**Goal 1:**
- Slow Traffic Down

**Goal 2:**
- Encourage Neighborhood Walking, Biking, & Mobility

**Goal 3**
- Make Creative & Safe Community Space for All Ages

**Goal 4:**
- Enhance with Greening and Sustainable Features

**Improvement Categories:**

- Sidewalk Improvements
- Neighborhood-Building
- Traffic Calming
Envisioning the MANGo Corridor
Sidewalk Improvements

Sidewalk Improvements will be introduced for an enhanced walking experience, through the introduction of lighting, new landscaping, signage, benches, bike racks, and modifications to the layout of the sidewalk.

Example Sidewalk Improvements are shown below. See Chapter 4, Design Toolbox for a detailed listing and description of all proposed Sidewalk Improvement tools.

Enhanced Lighting: As stated by many Pico Neighborhood residents, improving lighting is critical. New LED pedestrian-oriented lights should be introduced along the full route.

Sidewalk Amenities: Trash cans, benches, and bike racks.

Understory Planting: New planting areas can be added in bulb-outs or within existing parkways.
Neighborhood-Building

In addition to creating a pleasant place to travel on foot and by bike, a Neighborhood Greenway should also provide a pleasant place for neighbors to be. MANGo should be enhanced through neighborhood-building strategies, incorporate environmentally-sustainable features, and be enhanced visually. These elements will encourage walking and biking, social gathering, safety, and strengthen community pride.

Examples of Neighborhood-Building are shown below. See Chapter 4, Design Toolbox for a detailed listing and description of all proposed Neighborhood-Building tools.

Special / Permeable Paving: A recognizable enhanced paving pattern can be used to highlight key areas of the pedestrian realm such as corners, mini-parks, and crossings, or in certain roadway areas. Permeable paving can also capture storm water runoff and improve the environmental quality of a neighborhood.

Mini Parks:
Create pedestrian spaces for interaction, which can incorporate sustainable features.

Signage:
A successful Greenway is signed and identified for easy navigation and wayfinding.
Traffic Calming Improvements
Roadway and Traffic Improvements will be placed regularly along the full Corridor in all four character areas. These improvements are bicycle and vehicular related, and strive to slow traffic down.

Example Roadway and Traffic Improvements are shown below. See Chapter 4, Design Toolbox for a detailed listing and description of all proposed Roadway and Traffic Improvement tools.

Traffic Calming (Traffic Circle, depicted):
The first priority for a Neighborhood Greenway is to slow vehicular traffic down so that people feel safer walking and biking on the street.

Speed Limit Signage:
Posted speed limits further encourage slow-moving traffic.

Bicycle Sharrows:
Sharrows should be placed on all roadways along the MANGo route.
The MANGo Corridor

The diagram below depicts the proposed major place-specific improvements for the full MANGo Corridor including neighborhood-building components, sidewalk improvements, and roadway / traffic improvements. Corridor-wide elements including lighting, trees, landscaping, signage, and sharrow would be included along the entire MANGo corridor and are not shown in this diagram.

Legend

- Traffic Circle
- Slow Movement Intersection
- Chicanes
- Bulb-Outs
- Bulb-Out with Signal Modification / Turn Restrictions
- Potential Future Traffic Diverter
- Potential for Mini-park
- Greening at Edges
- Additional Potential for Special and/or Permeable Paving
- Shared Use Pathway (Active Transportation)
- Coordination with Safe Routes to School Projects
- Lincoln Blvd and Michigan Ave: Improvements to match the concurrent Safe Routes to School Project recommendations. "No Right on Red" for southbound movement on Lincoln Boulevard. Also, potential for turn restrictions for right turn movements from northbound Lincoln Boulevard to eastbound Michigan Avenue.

Notes:

Corridor-wide elements including lighting, trees, landscaping, signage, and sharrow would be included along the entire MANGo corridor and are not shown in this diagram.

The design of 17th St and Michigan Ave will be determined by the Memorial Park Neighborhood Plan process.
MANGo Corridor in Segments

MANGo is divided into four segments: the Bergamot Connector, the Neighborhood Wiggle, the Central Neighborhood Greenway, and the Beach Connector. Each segment has its own existing and proposed identity, which is discussed in this section.

The character and identity of the MANGo corridor will be established through a set of elements, or Greenway Tools: traffic calming installations, pedestrian enhancements, bicycle enhancements, signage, landscape, and neighborhood-building elements applied differently to each of these four segments.

The Bergamot Connector

The Bergamot Connector will connect across the freeway to Crossroads School, Bergamot Station Arts Center, the Agensys campus and pathway, and the Expo Line Station and Multi-Use path. The segment is envisioned as a set of safe and well-lit shared use paths as it travels across the freeway and adjacent to Crossroads, and then as a Neighborhood Greenway that links into the complete streets of Bergamot Station with directional signage and bicycle amenities at the Expo Line Station. A regional connection to the east is provided by linking to the Expo bike and pedestrian path.

The Neighborhood Wiggle

This segment navigates through the Pico Neighborhood adjacent to Virginia Avenue Park and Edison Language Academy via a series of turns. Turns are indicated through signage and a consistent set of traffic calming improvements.

The Central Greenway

The Central Greenway has regularly-placed traffic circles and measures to reduce automobile traffic on the western end of the corridor. Planted areas along the sidewalk and mini-parks/shared streets make for a more comfortable pedestrian realm, while bike sharrows, signage, and other amenities improve the cyclists’ experience.

The Beach Connector

The Beach Connector is envisioned as a connection around the Santa Monica High School campus through the Civic Center, along Tongva Park, to the beach. Part of the Beach Connector is envisioned as a multi-use path. This segment gives MANGo regional connectivity to destinations beyond Santa Monica and greater connectivity to the coast. Turns are indicated through signage.
OPPORTUNITIES: Linear segment without turns; currently used by peds and cyclists; wide right-of-way; attractive tree canopy; direct connection to Samohi; residual space which can be repurposed without a loss in parking; cul-de-sacs as opportunity space.

CONSTRAINTS: High volumes of cut-through traffic especially at peak hours; traffic from Samohi; inadequate pedestrian lighting; close proximity to the freeway, limited ability to slow vehicles down.

VISION: The heart of MANGo. Slowed traffic through regularly-placed traffic calming tools that provide a safe street for pedestrians and bicyclists. A pleasant place for neighbors to meet and gather through character-building mini-parks and other tools. Enhanced connections to Samohi.

WHAT IS PROPOSED: This segment will be characterized by a series of neighborhood-scaled traffic circles placed at non-signalized intersections, bulb-outs and pedestrian crossing enhancements at signalized intersections, and several mini-parks that would utilize the parking setback on Michigan Avenue cross streets that have perpendicular parking. The cul-de-sac streets along the freeway are enhanced with green walls or “green screens.” No loss of parking is anticipated on any areas of the Central Greenway.

Recommendations for the Central Greenway also include the introduction of vehicular restrictions at the intersection of Michigan Avenue and 11th Street. The segment of Michigan Avenue between 11th Street and Lincoln Boulevard currently has the highest existing traffic volume (greater than 4,200 vehicles per day) of any segment along MANGo. This segment of Michigan Avenue experiences a high level of cut through traffic associated with freeway access and vehicles avoiding nearby boulevards, as well as vehicles accessing Samohi during school drop-off and pick-up times. Reducing through traffic in the westbound direction on Michigan Avenue would help to address these issues.

The City of Santa Monica could review and monitor the average daily traffic volumes on Michigan Avenue between Lincoln Boulevard and 11th Street and between 11th Street and 14th Street on an annual or biannual basis following the implementation of the vehicular restrictions and traffic circles. If the daily traffic volumes within these two segments do not reduce to a level below the target of 2,000 vehicles per day, the City could consider the installation of physical elements, revised signage, or other treatments to further reduce traffic volumes.

Proposed improvements at the intersection of Lincoln Boulevard and Michigan Avenue are intended to improve conditions for pedestrians and cyclists crossing Lincoln Boulevard. Additionally, the high automobile traffic volumes on Michigan Avenue between Lincoln Boulevard and 11th Street trigger a need for measures to reduce the number of vehicles originating in this intersection and traveling eastbound on Michigan Avenue.

With these dual goals in mind, in addition to the improvements proposed as part of the Safe Routes to School Project, which are described in Note 2 on the next page, the following is proposed:

1. Modify the southbound left turn traffic signal phase on Lincoln Boulevard to reduce and discourage left turn movements on to eastbound Michigan Avenue. Potential modifications could include reducing the green time allocated to this signal phase, removing the protected left turn phase and replacing it with a permissive phase (no left turn arrow), or placing restrictions based on time of day when left turns are permitted at this location.

2. Consider implementation of right turn on red restrictions during peak hours and Leading Pedestrian Intervals (LPI) at Michigan Avenue and Lincoln Boulevard.

3. Install bike boxes on eastbound and westbound Michigan Avenue at Lincoln Boulevard.
Legend

- Greenway Corridor
- Potential Neighborhood-Building Area (mini-parks)
- Existing Parks/Open Space
- Permeable / Special Paving
- Bulb-Outs with Enhanced Crosswalks
- Improvements at the 17th/Michigan intersection to be determined by the Memorial Park Neighborhood Plan

Notes

1. Coordinate with Samohi Safe Routes to School project and future Lincoln Boulevard improvements. Restrict right turns on red at some or all approaches. Couple restriction with Leading Pedestrian Interval to improve pedestrian comfort. Set walk phase to automatic during school hours.

2. Near-term: Install signage restricting turning movements from 11th Street to Michigan Avenue during peak hours: 7:00 to 10:00am and 3:00 to 5:00pm on weekdays only.

Long-term: Evaluate performance of vehicular restrictions on Michigan Avenue traffic volumes between 11th Street and Lincoln Boulevard and modify treatment or regulations if warranted.

3. Provide permeable/special paving at the end of Michigan Avenue to provide a visual cue that eastbound motorists should travel southbound on 19th Street at the proposed “Shortcut Mini-Park.” Make the bicycle and pedestrian shortcut to 20th Street more comfortable and legible.

* Corridor-wide elements are not shown, including signage, landscaping, and sharrows.
**Central Greenway, Detail: Shortcut Mini-Park**

**Location:** At the end of Michigan Avenue, between the freeway off-ramp to the north and the residential property to the south.

**Idea / Concept:** A triangle parcel, an existing pedestrian/bicycle pathway, and the street space to the west of 20th Street can be turned into a public mini-park with community-serving functions that respect the adjacent residential buildings. The existing pathway can be widened to 12’ and be enhanced with special MANGo-compatible paving, landscape, directional signage, and lighting for safety. During the MANGo visioning process, community members suggested the ideas of adding play areas for children, community gardens, and educational spaces to the Corridor. This mini-park represents an opportunity to do just that. Below are three design concepts intended to explore what the space could become. Coordination with Caltrans and the adjacent residential building is necessary. The final layout of the mini-park would be designed via public input.

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**The Learning Mini-Park**
1. Ornamental native tree and landscaping
2. Free library booth
3. Community bulletin board

**Tot-Lot or Playground**
1. Tot lot
2. Exercise equipment for adults
3. Interactive public art
4. Extended green screen to help cleanse the air

**Community Garden**
1. Sundial
2. Raised beds for planting
3. Trellis shade structure
The Neighborhood Wiggle

**OPPORTUNITIES:** Connections to Virginia Avenue Park and Edison Language Academy; lower vehicular volumes and traffic speeds along the alignment as compared to portions of the Central Greenway; already a preferred route by cyclists.

**CONSTRAINTS:** A non-linear segment that has turns and various crossings at high volume streets such as Cloverfield Boulevard and 20th Street; a narrower right-of-way in places.

**VISION:** A well-identified Neighborhood Greenway route, marked with signage and wayfinding to indicate turns and increase safety. Incorporates the same family of traffic calming elements as the Central Greenway, along with other elements that are suited for the narrow street widths here. Safe and enhanced crossings. Enhanced connections to Edison Language Academy and Virginia Avenue Park.

**WHAT IS PROPOSED:** Signage and wayfinding will be a critical part of this segment to make sure people know which way MANGo turns. Likewise, sharrow markings throughout the Wiggle can be designed with chevrons that point toward the route (i.e. are angled at turns), as illustrated in the picture to the right.

In addition to signage and directional sharrows, recommendations for this segment include traffic circles and slow movement intersections that are regularly-spaced to mirror the design language established on the Central Greenway and to accomplish the intended slowing effect. The Wiggle streets, which share a residential character similar to the Central Greenway segment of the MANGo Corridor, serve lower volumes of automobile traffic and are currently below the targeted threshold of 2,000 daily vehicles. Despite this fact, the narrower curb-to-curb widths in this area (as compared to those present on Michigan Avenue) sometimes make it harder for pedestrians and cyclists to see beyond parked cars and they provide a smaller area for cyclists to share the street with vehicles. The traffic circles, slow movement intersections, and chicanes will help to address this issue, by creating a more visible presence for pedestrians in the street space at intersections (slow movement intersection) and by creating horizontal controls that encourage drivers to pay close attention to the roadway (traffic circles and chicanes).

Also proposed in this segment are crossing enhancements at major intersections. Cloverfield Boulevard and 20th Street are both high volume roadways with signalized intersections, which must be crossed along the Wiggle.

The only loss of parking that is assumed in this section is at the chicanes, where placement has been made to minimize parking loss. Approximately two on-street parking spaces would be lost, or relocated if possible.

Above: chicanes, slow movement intersection, and directional sharrow

**Key Map**

The Neighborhood Wiggle is bounded by 19th Street in the west and Stewart Street in the east.
The Neighborhood Wiggle, Illustrative

Legend
- Greenway Corridor
- Potential Neighborhood-Building Area (mini park)
- Existing Parks/Open Space
- Neighborhood Destinations
- Special/Permeable Paving
- Bulb-Outs with Enhanced Crosswalks
- Green Edges
- Chicanes
- Traffic Circle
- Slow Movement Intersection
- Street Trees with Pedestrian Lighting

Notes
1. Chicanes placed along 22nd Street, which provide traffic calming for this street, should be located near driveways to minimize parking loss. Estimated loss of two parking spaces with this street improvement.
2. Bulb-outs and enhanced crossing and signage at Virginia Avenue Park. Potential for a bioswale in the proposed bulb-out improvement.
3. Improve water drainage channel on Kansas Avenue and 27th Street to facilitate smooth bicycle travel. The traffic circle here will need further study to maintain on-street parking, emergency vehicle access and navigability.

* Corridor-wide elements are not shown, including signage, landscaping, and sharrows.

Key Map
Chevrons of bike sharrows should be angled to mark the Greenway route at turns throughout the Neighborhood Wiggle. Wayfinding signage should also be placed at turns to mark the route of travel for both pedestrians and cyclists.

Public Review Draft
The Beach Connector

**OPPORTUNITIES:** Connection to Civic Center, Tongva Park, Samohi, Ocean Front Walk, and Marvin Braude Bike Trail for regional connectivity; wide sidewalks on Olympic Drive offer potential for a shared-use pathway.

**CONSTRAINTS:** A non-linear segment that has turns and various crossings at high-volume streets which must be navigated; constrained right-of-way width in places; high-speed traffic volumes on Olympic Boulevard; traffic circulation issues around Samohi.

**VISION:** A well-marked and safe pedestrian and bike connection from the MANGo segment at Samohi through the Santa Monica Civic Center, to the beach.

**WHAT IS PROPOSED:** As with the Neighborhood Wiggle, signage and wayfinding will be critical for the Beach Connector, to allow users to navigate from the beach through the MANGo route and understand turns and crossings. Signage that identifies the Neighborhood Greenway and describes what destinations can be reached by using it, should be included at the head of the facility as it connects with the beach bicycle path.

In later phases the Beach Connector should be studied in depth, in light of new construction and best connections to the beach. At present, this Concept Plan presents a feasibility and preliminary study only for the Beach Connector.

In order to address the challenges around Samohi, initial proposals for this segment (from east to west) include a new off-street multi-use path located along the south side of Olympic Drive between 7th Court and 4th Street, consistent with the Bike Action Plan and the Safe Routes to School Plan. Olympic Boulevard is a higher volume and faster street, reflective of its role in facilitating access on to and off of the freeway.

A bicycle and pedestrian facility separated from traffic is identified as the preferred concept for this segment due to the challenges present by the higher traffic speeds and traffic volumes.

West of 4th Street, the wide sidewalk on the south side of Olympic Drive between 4th Street and Avenida Mazatlan could be modified to accommodate a multi-use path for pedestrians and cyclists that would connect to the pathway east of 4th Street. With a signalized crossing at Avenida Mazatlan, the multi-use path could continue on the north side of Olympic Drive between Avenida Mazatlan and Ocean Avenue. Ocean Avenue is a high-volume north-south arterial roadway and a traffic signal there will facilitate crossings of this street for cyclists and pedestrians.

West of Ocean Avenue, the Greenway may connect to Appian Way via Pacific Terrace. Pacific Terrace is a lightly used street but is steep without level landing areas at the intersections. While Pacific Terrace is stop controlled at both ends, Appian Way traffic does not stop. Consideration should be given in later design phases to create an all-ways stop controlled intersection at Appian Way, to provide protection for inexperienced cyclists and facilitate pedestrian crossings.

To continue west, the Greenway could be extended directly to the beach with a multi-use path through the City parking lot or could jog along Appian Way to the north or south to connect to Arcadia Terrace or Pacific Terrace and the beach. Pacific Terrace may be more desirable because cyclists are not required to make an uncontrolled left across oncoming traffic to reach Pacific Terrace. Once at the beach, a new direct connection to the cycling path to the west of the pedestrian pathway is desirable.
The Beach Connector, Illustrative

Legend
- Greenway Corridor
- Existing Parks/Open Space
- Neighborhood Destinations
- Green Edges
- Special/Permeable Paving
- Future Samohi Safe Routes to School Streetscape Plan
- Street Trees with Pedestrian Lighting

Notes
1. Connection to Ocean Front Walk and Marvin Braude Bike Path could occur through beach parking lot or via Arcadia or Pacific Terraces.
2. Potential for all-way stop at Appian Way.
3. Future signal at this intersection to accommodate cyclists. East of this intersection, multi-use pathway on the southern sidewalk. The multi-use pathway continues to Ocean Avenue along the north side of Olympic Drive.
4. Two-way multi-use path will be provided along the south side of Olympic Drive, consistent with Samohi Safe Routes to School Plan.

Key Map
* Corridor-wide elements are not shown, including signage, landscaping, and sharrows.
**The Bergamot Connector**

**OPPORTUNITIES:** Regional connection via Expo Line; connection to the Crossroads School, Bergamot and the Agensys campus; new connection to the north across freeway; residual space that can be repurposed.

**CONSTRAINTS:** Bergamot Connector is complex and in some cases proposed MANGo connections do not currently exist; Cloverfield Boulevard and Michigan Avenue intersection is busy and wide; cut-through and school traffic can get heavy around Crossroads School.

**VISION:** A set of safe multi-use pathways that connect across the freeway and onto Michigan Avenue. Repurposed roadway for people space and traffic calming, using the same family of elements as other MANGo segments. Complete Streets enhancements as per the Bergamot Area Plan and to connect with the future Expo station.

**WHAT IS PROPOSED:** The connection between the discontinuous segments of Michigan Avenue across the freeway is proposed to be made using the eastern sidewalk on the 20th Street bridge and a new multi-use path constructed on a portion of the Caltrans right-of-way and south of the Crossroads School property between 20th Street and 21st Street. This multi-use path would then provide a connection to an on-street bicycle facility on Michigan Avenue east of 21st Street.

The portions of Michigan Avenue at this location have a substantially different character when compared to the sections south of the freeway. Here, Michigan Avenue serves primarily commercial and industrial land uses, creating different traffic patterns and a different mix of vehicles. Traffic volumes are generally higher during peak commute hours, and are influenced by the presence of Crossroads School. A one-way configuration on Michigan Avenue was considered in this segment to provide additional street width for bicyclists in this portion of the corridor and to discourage cut-through traffic. However, this configuration was not pursued over concerns that a one-way operation south and east bound could create more cut-through traffic for automobiles looking to access the 10 Freeway from Olympic Boulevard. One-way operation west and north bound was also considered but was found to have several problems including the inability to provide vehicle stacking space at the Olympic, 21st and Pennsylvania intersection for vehicles attempting to connect to Pennsylvania from Olympic. Without accommodating this movement, all access would need to come from the Cloverfield intersection and could require considerable out-of-direction travel.

Proposals for this part of Michigan Avenue include a set of chicanes to calm traffic and discourage speeding and a mini-park with green screen, which uses the cul-de-sac of 22nd Street just south of Michigan. Placement of the chicanes would minimize potential loss of on-street parking.

As with the Neighborhood Wiggle and Beach Connector, wayfinding within this segment would be helpful to direct cyclists along the route to key destinations such as the Expo station, Bergamot, and through the Agensys campus.

The intersection of Cloverfield Boulevard and Michigan Avenue is challenging for cyclists and pedestrians in its current condition, with long crossing distances across Cloverfield Boulevard and narrow sidewalks in all four quadrants of the intersection. Curb extensions are recommended on Michigan Avenue to reduce crossing distances for cyclists and pedestrians, and to provide a larger pedestrian refuge and waiting area. It is noted that this intersection does serve a substantial amount of truck traffic and the existing curb radius for the southeast corner would need to remain with the proposed curb extension in order to preserve truck turning movements.

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The Bergamot Connector is bounded by 20th Street in the west and Stewart Street in the east.

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**Legend**
- Greenway Corridor
- Green Edges
- Chicanes
- Bulb-Outs with Enhanced Crosswalks
- Street Trees with Pedestrian Lighting
- Potential Neighborhood- Building Area (mini parks)
- Neighborhood Destinations
- Special/Permeable Paving
- Bergamot Area Plan
- Expo Bike and Pedestrian Path

**Notes**
1. Pedestrian crossing at 20th Street will connect “Central Greenway” section to the “Bergamot Connector” section.
2. Multi-use pathway along the eastern sidewalk of 20th Street bridge (see section drawing on page 51). Sidewalk to be expanded to accommodate for planting or art to act as a freeway buffer.
3. Multi-use pathway linking 20th Street and Michigan Avenue to be provided adjacent to Crossroads School Campus (see section drawing on page 52).
4. Opportunity to repurpose this underutilized cul-de-sac, as a potential neighborhood-building/greening area.
5. Curb extensions to gain sidewalk space and reduce crossing distances. Design extensions to maintain appropriate turning radii for truck access to City Yards.
6. Neighborhood Greenway improvements to conform to the Bergamot Area Plan. Bike and pedestrian pathway to be provided through Bergamot to connect to the Agensys campus, as well as the Expo station and Multi-Use path.
7. Signage or mapping should be placed at the Expo station to help transit riders use and navigate the Neighborhood Greenway.

* Corridor-wide elements are not shown, including signage, landscaping, and sharrows.
The Bergamot Connector, Detail: 20th Street Bridge Crossing

Location: Where Michigan Avenue meets 20th Street and 20th Street crosses over the 10 Freeway

Idea / Concept: Create a safe pathway for cyclists across the freeway on the 20th Street bridge by widening the sidewalk on the east side of the street and introducing a shared use path for both cyclists and pedestrians. The section below illustrates the proposed new right-of-way configuration. The pathway could be enhanced through lighting, signage, public art, a sound wall, landscaping along the overpass fence, and plants in planters. Lighting illustrated below could also be integrated into bridge fencing to increase travel space.
The connection between the discontinuous sections of Michigan Avenue across the freeway would be accomplished using a combination of improved existing off-street sidewalk and pathways, as well as a new off-street pathway. As mentioned previously, east of 19th Court, MANGo would use an existing sidewalk path, which would be widened to access 20th Street. Cyclists would then cross 20th Street on the south leg of the signalized intersection of 20th Street and the eastbound freeway off-ramp. A recent improvement project at this intersection installed a crosswalk across the south leg of the intersection, landing on the east side of 20th Street, south of 20th Court. Ideally, this crosswalk would land on the east side of 20th Street north of 20th Court to minimize the number of streets that users must cross when traveling this portion of the corridor. However, additional review of this intersection and the phasing of traffic, pedestrian, and cyclist movements would be necessary to determine if the realigned sidewalk is feasible.

After heading over the multi-use path on the 20th Street bridge, the corridor turns east, using an easement between Caltrans right-of-way and the Crossroads School property to connect between 20th Street and 21st Street. An 18 ft. wide multi-use path is proposed in this space, which would necessitate encroachment into Caltrans right-of-way. The remaining portion of the right-of-way necessary for the pathway will come from an easement negotiated with Crossroads School, located immediately to the north. This pathway would provide a connection to the intersection of 21st Street and Michigan Avenue (see section drawings below). An interim phase could incorporate the 10 ft. easement into a sidewalk pathway, before implementing the final phase of the complete 18 ft. multi-use pathway. Path fencing should be visually porous to maintain sight lines for safety.
Branding the Corridor

Look and Feel

Often Greenways are designed with a consistent “look and feel” in order to establish a clear and identifiable route. MANGo should present a consistent look and feel not only in terms of the how the roadway, sidewalk and landscaping improvements are designed and placed, but also what form the signage takes in terms of color, font, icon, typology, and what materials are chosen. Wayfinding and identity-building are key to the success of MANGo, especially in areas outside of the Central Greenway. Regular signage will make MANGo a more attractive and pleasant place to walk and bike because it helps pedestrians and cyclists to navigate along the street, creates a sense of place, and encourages neighborhood pride.

Having a identifiable look and feel, including signage and/or an icon will help people understand that they are on the Greenway and will help them while navigating along the route. Icons can be used as part of the signage program, as indicators placed in the sidewalk or in paving types, giving both formal and informal cues to users.

"Branding is an effective way to facilitate visual identification of Neighborhood Greenways"

- City of Santa Monica Bike Action Plan

Inspiration

As an example of a potential identity icon, the MANGo leaf has been chosen as a motif throughout this Plan because it evokes a “green” corridor and playfully refers to a mango.

Motif

The motif can be used on signage, wayfinding, paving, publicity materials, maps, and the like.

Signage

Directional and identification signs along the route should use the icon, along with a consistent established color palette, font, and naming.

Neighborhood-building and Passive Wayfinding

The identifiable motif can also be used as a pavement stamp, inlay, or paving pattern in certain locations along the corridor.

Note: Icons shown above are examples of branding designs. Actual design to be completed in later phases. Signage and identity design should occur as part of Phase 1 and should be consistent with the bicycle signage design program that the City is undertaking.
Applying the “Look”

The diagrams to the right illustrate how the pattern can be applied along the corridor to give people a visual cue that they are on MANGo. Applying an iconographic paving pattern or inlay along MANGo will aid pedestrians and cyclists that are navigating the route. Large gestures of paving patterns also have been shown to slow traffic speeds, increase safety, and give pedestrians priority in the street space.

1. Bronze Sidewalk Inlay, MANGo ID Medallion
   See precedent picture below, left

2. Special Paving in Crosswalks

3. Special Paving at Corners, Bulb-Outs, and Slow Movement Intersections

4. Special Paving Within the Roadway

5. Signage and Wayfinding
CHAPTER 4: DESIGN TOOLBOX

The tools described this chapter present the selected group of traffic calming, traffic reduction, and placemaking tools that will create a safe, enhanced, and identifiable place along the Michigan Avenue Neighborhood Greenway. Many of the tools chosen and represented in this section were tested on-the-ground during the Pop-Up MANGo workshop. Direct feedback from the community led to the design toolbox that is presented in this chapter.
# MANGo Greenway Design Goals

The Community’s four Goals for MANGo have been translated into urban design tools. Each tool serves multiple goals; the colors next to the tools show which of the goals they relate to.

## Community Goals

**Goal 1:**

**Slow Traffic Down**

**Goal 2:**

**Encourage Neighborhood Walking, Biking, & Mobility**

**Goal 3**

**Make Creative & Safe Community Space for All Ages**

**Goal 4:**

**Enhance with Greening & Sustainable Features**

## MANGo Greenway Design Tools

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Tool 1: Lighting

Purpose & Definition

Regularly-spaced pedestrian lighting is a critical feature for MANGo. Many workshop participants and community members described the need for better lighting along the corridor for safety and comfort. Enhanced lighting increases visibility, perception of safety, and eyes-on-the-street. Additionally, lighting will aid in the night-time navigation for pedestrians, cyclists, and other active transportation users along the corridor. Lighting plays a crucial role in encouraging bicycling and walking, especially in winter and at night. The majority of the MANGo corridor currently only includes vehicular-scaled street lighting that illuminates the driver’s path of travel. Sidewalks are less illuminated as are the mid-block areas. Filling in consistent pedestrian lights and coupling this with a strategy to trim the existing tree canopy will increase visibility and safety for users at all hours.

Placement and Size

Pedestrian lights are most effective when introduced regularly, approximately every 30 feet on center. Pedestrian lights can also be clipped onto existing roadway lights where existing lighting is kept in place.

Design Criteria and Technical Considerations

- Lights should be both roadway- and pedestrian-oriented.
- Lights should be LED and where feasible, solar-powered. The panels would reduce operating costs for the lights and could offset lighting energy use. The addition of a battery back-up system would provide light in the event of an extended power outage such as due to an earthquake.
- Tree canopies should be trimmed along the corridor.
- Chapter 5 includes a suggested family of lighting options that responds to the character and scale of the surrounding community and is based on City standards.
- Motion activated lights may be a sustainable option for the MANGo Corridor. Motion-activated lights are triggered by motion in advance of a pedestrian or cyclist and thus can be more efficient and environmentally sustainable than traditional fixtures.
Purpose & Definition

Greening MANGo will be a critical feature that helps create a comfortable and inviting route for both pedestrians and cyclists. Much of the corridor already has large mature trees, so greening strategies for the Neighborhood Greenway would include infill of trees over time, addition of planted areas within bulb-outs, chicanes, slow movement intersections, traffic circles, mini-parks, and other planted areas. Greening positively affects both the aesthetics and sustainability of the neighborhood.

Adding green space throughout the MANGo route also provides the opportunity to include bio-filtration. As conceptualized, MANGo will add new opportunities to capture storm water runoff with bioswales or added landscape. Bioswales are a planted ditch or depression that carries storm water and treats runoff without requiring extensive maintenance.

Placement and Size

The size and placement for planted area will vary given the improvements proposed. Traffic circles, chicanes, mini-parks, bulb-outs, diverters, and slow movement intersections can all include landscaped areas.

Design Criteria and Technical Considerations

Chapter 4 includes a suggested landscape palette for the Corridor that responds to the character of the surrounding community. Plants and trees selected should be native or adaptive and part of the locally-accepted palette and they should be selected because they require little maintenance and water.
Tool 3: Green Edges

Purpose & Definition

Many of the cul-de-sac streets that are adjacent to the 10 Freeway just north of Michigan Avenue provide opportunities for greening at their ends, in particular along the sound walls or the fences that front the freeway. New landscaping can include vines, trees, and understory planting in bulb-outs that will absorb freeway particulates and noise. Design and installation of the green edges would be done in coordination with Caltrans.

Placement and Size

Areas that offer opportunities for enhancement with green edges along the MANGo route include the following streets north of Michigan Avenue: 9th Street, 12th Street, Euclid Street, 15th Street, 16th Street, and 18th Street. Additional locations include 21st and 22nd Streets north of Delaware Avenue and Frank Street north of Virginia Avenue. Green edges may also be incorporated along the proposed shared-use paths in the MANGo Concept Plan.

Design Criteria and Technical Considerations

- See the landscape palette in chapter 5 for recommendations on planting and trees in these areas.
- Landscaping selected should be water-wise and native or adaptive. Likewise it should be hearty and selected because of its ability to cleanse the air and provide a sound buffer.
- The green edges may be coupled with enhanced MANGo-themed paving within the roadway to make the cul-de-sac streets more inviting for residents to use. Enhancing paving here would encourage a multi-modal transformation of the space and will slow vehicular traffic movements on these streets.
- Note that parkways will continue to be maintained and planted by property owners. Property owners are encouraged to use the MANGo planting palette for parkway landscaping.

Community Recap

- Slow Traffic Down
- Encourage Neighborhood Walking, Biking, Mobility
- Make Creative & Safe Community Space for All Ages
- Enhance with Greening and Sustainable Features

“I like the landscaping idea, especially if you use low-water planting”
- Workshop Participant, Pop-Up MANGo

Typical Green Screen
Green Edges (and Wall Art) Examples for Freeway Buffer

Local Application: Long Beach, CA

Long Beach recently installed a green mulch wall to protect against freeway noise and air pollution. This low-cost structure consists of two 12 foot high chain link fences with shredded tree clippings between them. The wall is, by its nature, graffiti proof. The City plans to plant trees and shrubs along the wall, which was a demonstration project.
Tool 4: Wayfinding and Greenway Identification Signage

**Purpose & Definition**

Wayfinding and identity-building are key to the success of the Neighborhood Greenway, especially in areas outside of the Central Greenway segment. Regular signage will make MANGo a more attractive and pleasant place to walk and bike because it helps pedestrians and cyclists to navigate along the street, creates a sense of place, and encourages neighborhood pride. Signage will also help identify the MANGo route through the use of repetitive colors and recognizable icons. Signage should include both Directional and Identification Signage. Directional Signage points pedestrians and cyclists to key neighborhood destinations, while Identification Signage labels the MANGo route and tells walkers and cyclists that they are on the Greenway.

**Placement and Size**

**Directional Signage** should be placed at key intersections near neighborhood destinations, as well as at decision-making points such as route turns or crossings. This regularity allows travelers to stay on the route and points them to key destinations.

**Identification Signage** can be placed on all MANGo street signs, within the traffic improvements for example within the traffic circle, and at key destinations (such as Virginia Avenue Park) or route turns (for example along the Wiggle).

**Design Criteria**

- Greenway signage should be human-scaled and pedestrian- and bicycle-oriented rather than vehicular-oriented.
- Directional signs should include arrows, locations, distances by mode, and best routes with easy-to-read icons.

The design of signage and wayfinding for the MANGo corridor should be consistent with the Citywide signage project.

Wayfinding signs may come in a variety of shapes and sizes, and work best if they are visually and graphically consistent. Once a color palette is established, the MANGo wayfinding signs should consistently utilize the palette. See below for examples of various signage typologies.

Wayfinding may also be ‘passive.’ Examples of this include motifs stamped into the sidewalk, medallions, stencils, and special paving.

The graphic (above) depicts recommended signage types for MANGo in terms of scale and form. These sign types do not indicate actual sign design, size, color, content, etc. Signage design will be completed as part of the Citywide Signage Plan that is currently underway and as part of the next phase of design for the MANGo corridor.
Tool 5: Mini-Park

Purpose & Definition

A mini-park is a small open space that is intended for neighbors to gather and also provide rest areas for people walking on the corridor. A mini-park is created by extending the sidewalk area into underutilized parts of the right-of-way. Mini-parks can be used for planting, public art, play equipment, or gathering space. Mini-parks can help to improve the neighborhood’s character and they provide a place for neighbors to interact.

Placement and Size

Mini-parks are recommended within the parking zones on the southeast corners of the following streets as they intersect with Michigan Avenue: 9th, 10th, and 12th Streets. Additionally, the triangle areas where Michigan Avenue intersects 20th and 22nd Streets are other possible locations for mini-parks.

As mini-parks repurpose underutilized space in the roadway, the size of the mini-parks on MANGo may vary depending on the location. The MANGo mini-parks would utilize existing red-curb areas or underutilized roadway and would not reduce parking. Ideally the mini-parks would span the full width of the adjacent perpendicular parking, i.e. 18 - 20 feet wide.

Design Criteria and Technical Considerations

- The design of each mini-park would vary depending on the desires of the surrounding neighbors. The mini-park should reflect the character and identity of the neighborhood and would be designed in a community process. The concepts that are presented are based on popular themes suggested by community members during the Pop-Up MANGo event.
- Trees and understory planting should be planted in each mini-park as possible, while maintaining sight lines.
- There should be a flush transition between the sidewalk and the mini-park and the surface should be slip resistant.
- Street furniture that may include benches, various seating options, exercise equipment, learning facilities, wind turbines, and other sustainable elements are recommended.
- Mini-parks should have lighting and should be designed for safety and visibility. They can include vertical elements that make them visible to traffic and that protect people inside of them from vehicles.

Community Recap

“I want to hang out in the park with my neighbors!” - Workshop Participant, Pop-Up MANGo

Community Themes for the Mini-Park
Mini-Park Examples

San Francisco, CA

Vancouver, BC

San Francisco, CA

Long Beach, CA

San Francisco, CA

Philadelphia, PA

Local Applications: Los Angeles, CA

Mini-Parks are popping up across the country. As of the writing of this Plan, the City of Los Angeles has implemented four mini-parks in various neighborhoods with much success and plans are in the works to install more.
Tool 6: Traffic Circle

**Purpose & Definition**

A neighborhood traffic circle is a round central island around which vehicular and bicycle traffic circulates. Traffic circles slow traffic and reduce intersection conflicts at two low volume streets. Regular implementation of traffic circles along the Neighborhood Greenway can help to shorten the sight lines for drivers, focusing their vision on the current block on which they are traveling, and helping to reduce automobile travel speeds. Traffic circles can be installed with or without stop signs on two or all four approaches to an intersection; MANGo traffic circles would retain stop signs on the cross streets, but not on the Neighborhood Greenway through-route.

Traffic circles are friendly to motorists and various self-propelled mobility devices because they are responsive to the flow of traffic. Cyclists and motorists for example, do not need to stop unnecessarily when road conditions are clear, increasing the multi-modal level of service. Traffic circles also allow for landscaping and tree planting in the roadway. This offers the opportunity to beautify the street and to introduce permeable areas that reduce the negative effects of urban runoff.

**Placement and Size**

Regular placement of traffic circles every 200 to 300 feet will help establish a clear identity for the corridor and will assure the intended slowing effect. Traffic circles are suggested at intersections on Michigan Avenue and the Wiggle, which are currently not signalized. The introduction of traffic circles in these locations would not require removal of existing parking spaces. Each traffic circle will provide nearly 400 square feet of pervious area.

Traffic circles can be placed within “T” intersections (also called three-legged intersections) to fulfill the same role with traffic calming as the feature would in a four-legged intersection. The radius of the traffic circle within a “T” intersection is generally smaller than one placed within a four-legged intersection to ensure that adequate width for the travel of larger vehicles is provided between the traffic circle and curb for the portion of the roadway with no approaching street.

**Design Criteria and Technical Considerations**

- Stop bars would be retained but pushed back, on the side streets (i.e. streets that intersect MANGo).
- Maintain 20 ft. clear from the traffic circle inner curb to the sidewalk curb on all sides of traffic circle for emergency vehicles.
- The edges of the traffic circle should be paved with a hard surface and the edge of the traffic circle should include a 5-8 ft. wide rolled or mountable curb to facilitate movements for larger vehicles (i.e. fire trucks or trash trucks) through the intersection. This paved area can use pavement stamps or a pattern that reflects the MANGo brand or icon.
- Pedestrian crossings should be slightly set back from the intersection if placed by a traffic circle. This reduces the potential for conflicts between vehicles and pedestrians as vehicles navigate the traffic circle in the intersection.

**Typical Traffic Circle**

**Legend**

1. Planted Area
2. Rolled Curb
3. ID Signage
4. Relocated Stop Bars on Cross Streets

**Community Design Goals Attained**

- Slow Traffic Down
- Encourage Local Access
- Make Creative, Legible, & Safe Community Spaces
- Enhance with Greening and Sustainable Features

“I really like the [traffic] circle with plants. I don’t mind going slower myself.”

- Workshop Participant, Pop-Up MANGo
Local Application: Norton Avenue, West Hollywood

There is a pair of neighborhood traffic circles on Norton Avenue in West Hollywood between Fairfax Avenue and Crescent Heights Boulevard, spaced approximately 440 feet apart. The circles are approximately 20 feet in diameter and like the MANGo traffic circles, leave 20 feet clear on all sides of the circle and have planting with a tree and a rolled curb around the circle. Unlike the traffic circles proposed on MANGo, the Norton circles include “splitter islands” on each side, to route traffic around them.
Tool 7: Slow Movement Intersection

**Purpose & Definition**

A slow movement intersection improves the pedestrian environment by creating a shared space for all users at intersections similar to the recent crosswalk installed on Main Street connecting City Hall and Tongva Park. These intersections are unsignalized and require eye-to-eye negotiation to determine right-of-way. This treatment increases driver awareness and reduces vehicle speeds to below 20mph to promote user safety for vehicles, pedestrians, and cyclists. These treatments extend the pedestrian realm and often incorporate special paving and bollards to suggest travel movements and to increase safety where there are mixing zones.

A slow movement intersection also provides the opportunity to beautify the streetscape by incorporating permeable, imprinted, or other special paving as field treatments over the entire intersection. Additionally, the expansion of the pedestrian realm creates space for street furniture, enhanced lighting, and added planting, adding a pedestrian plaza-like feel to an intersection.

**Placement and Size**

Slow movement intersections are proposed at selected unsignalized intersections in the Neighborhood Wiggle and take up the full intersection.

**Design Criteria and Technical Considerations**

- Bollards or other vertical demarcation should be used to visually separate pedestrians and vehicular traffic.
- The corner bulb-out can accommodate planting and street furniture.
- The design may introduce a slight offset for vehicles travelling on the Neighborhood Greenway. This movement would be subtle but effective in slowing down traffic at highly-trafficked intersections.
- Maintain 20 ft. clear for emergency vehicles.

**Legend**

1. Extended Planted Areas
2. Special Paving at Intersection. Intersection is Raised to Help Slow Vehicles.
3. Bollards at Sidewalk Edge
4. Room for Benches, Lighting, and Street Furniture
5. Gentle Incline of Roadway

*“Anything to make cars SLOW DOWN.”*  
- Workshop Participant, Pop-Up MANGo

**Typical Slow Movement Intersection**

**Community Recap**

- Slow Traffic Down
- Encourage Neighborhood Walking, Biking, Mobility
- Make Creative & Safe Community Space for All Ages
- Enhance with Greening and Sustainable Features
Slow Movement Intersection Examples

Local Application: Longfellow Street, Santa Monica

A two-block stretch of Longfellow Street in Santa Monica includes some of the same treatments as proposed for the MANGo Slow Movement Intersections. The main similarity between Longfellow and the Slow Movement Intersections on MANGo are the “shared” aspect of the street. In both, vehicle traffic is calmed with cues from textured surfaces and planting. MANGo is proposing bollards along the sidewalk edge, which Longfellow does not have and on MANGo, only the intersections are raised, rather than the whole length of the street.
**Tool 8: Chicanes**

**Purpose & Definition**

A chicane is a traffic calming device where the curb is moved to narrow the roadway width in places thereby reducing vehicular speeds by requiring motorists to maneuver between the bulbs. In residential neighborhoods, chicanes also act as buffers between the sidewalk and traffic, increasing safety and comfort for pedestrians and cyclists. A study by London Department of Transport showed that chicanes reduce collisions by nearly 54%. In Seattle, when before and after speed studies were performed on roads with chicanes, it was shown that they significantly reduced vehicle speeds; speeds were 18% - 35% lower than before installation. Chicanes are especially effective in creating a slow and identifiable street when used in succession and are almost always installed as a matched pair.

Chicanes can also accommodate landscaping and can catch storm water runoff. The space within a chicane can also be enhanced with public art, placemaking elements, and wayfinding signage. Trees and planting within the chicane break sight lines and visually narrow the road, leading to slower traffic speeds.

Chicanes can have an impact on parking along a roadway since these devices are placed in mid-block locations. However, the design, length, and placement of a chicane can be refined in order to minimize the potential impacts to on-street parking.

**Placement and Size**

The chicanes proposed for MANGo are placed mid-block, in locations to minimize the loss of on-street parking. In areas where space permits, chicanes can be designed with bicycle cut-throughs, which allow bikes to travel straight, without having to jog around the bulb. Chicanes will vary in size on MANGo, but on the street are usually around 20-30 ft. long and 12-16 ft. wide. Chicanes should be spaced approximately 45 ft. apart on center to create a curved path of travel but facilitate emergency vehicle access.

**Design Criteria and Technical Considerations**

- Chicanes should be planted with low understory planting to prevent obstructing visibility. Where feasible, this area can act as a bioswale.
- Additional signage and striping may be included to alert drivers to the chicanes.
- 20 ft. clear must be maintained between the chicane bulbs.
- Trees and planting within the chicane break sight lines and visually narrow the road, leading to slower traffic speeds.

![Diagram of Typical Chicanes]

**Legend**

- **1**: Extended Planted Area
- **2**: Chicane Bulbs into the Street
- **3**: Driveway or Alley Adjacent to Minimize Parking Loss
- **4**: ID Signage Can Be Placed in Chicanes

**Community Recap**

- Slow Traffic Down
- Encourage Neighborhood Walking, Biking, Mobility
- Make Creative & Safe Community Space for All Ages
- Enhance with Greening and Sustainable Features

“Chicanes will help calm down the traffic on Michigan. I notice a lot of speeding down this street during school hours.”  
- Workshop Participant, Pop-Up MANGo
Chicane Examples

Milvia Street in Berkeley is home to a grouping of 6 chicanes along 6 neighborhood blocks. This slow moving street has become a favorite for local pedestrians and cyclists.
Tool 9: Bulb-Outs

Purpose & Definition

Bulb-outs (also known as curb extensions) are areas where the curb is extended into the roadway at crossings. Bulb-outs improve the pedestrian experience and calm traffic by shortening crossing distances, increasing pedestrian visibility, slowing turning vehicles, and visibly narrowing the roadway to discourage high-speed traffic. Curb extensions also provide more room for walking, seating areas, and opportunities for planting and bioswales, in which storm water can be managed. At suggested bulb-out locations, crosswalks can be enhanced, if they are not already.

Placement and Size

Bulb-outs are suggested along the MANGo route at intersections with high pedestrian volumes. The length of the bulb should be equal to or greater than the width of the crosswalk, ideally extending to the advanced stop bar. The bulb should generally be 1-2 feet narrower than the parking lane.

Design Criteria and Technical Considerations

- Bulb-outs should be coupled with enhanced crosswalk markings such as special paving and crossing signage.
- Bulb-outs can be designed to incorporate the branded MANGo paving pattern in order to enhance the visual identity of the MANGo route.
- Design bulb-outs so as not to interfere with cyclist path of travel.
- Bulb-outs should be included on at least two corners, and in most cases, on all four corners of an intersection.

Parkways included in bulb-outs should be planted with low understory planting to comply with required sight-lines for vehicles and cyclists. See the Materials Palette in Chapter 5.

Where space permits, bulb-outs may include storm water management features such as bioswales learning areas or rain gardens.

Maintain 20 ft. clear for emergency vehicles.

Design bulb-outs with dual curb ramps where possible.

Community Recap

"I love all of the designs—yes do it!"

- Workshop Participant, Pop-Up MANGo
Bulb-Out Examples

Local Application: Santa Monica, CA

The City of Santa Monica introduced bulb-outs at the intersection of Dorchester Avenue and Delaware Avenue. These curb extensions have added aesthetic value to the area and decreased pedestrian crossing distances.
Purpose & Definition

A variety of pedestrian crossing improvements can be used at signalized intersections along the MANGo route to make a safer and more pleasant crossing experience. These improvements include:

- **Enhanced crosswalks** (i.e. striped, printed, specially-paved, or otherwise clearly delineated). This helps to make the crossings more visible, thereby slowing or stopping oncoming traffic.

- **Leading Pedestrian Intervals** (LPIs). Pedestrians are given a minimum 3-7 second head start when crossing the intersection, as compared to vehicular traffic. This enhances the visibility of pedestrians in the intersection and makes it easier for them to cross.

- **Push buttons** for crossing pedestrians.

- **Lighting** at intersections and along sidewalks. (See Tool 1)

- **Corner bulb-outs**. (See Tool 9)

In addition, new or improved connections can be made to link portions of the MANGo route that are not currently connected for bicycles and pedestrians or which could be enhanced, such as the connection from Michigan Avenue to 20th Street, across the 20th Street bridge, and adjacent to Crossroads School. See Chapter 3 for recommendations for these new and enhanced connections.

Placement and Size

- Enhanced crosswalks may be introduced wherever there are signalized intersections along the MANGo route and coupled along with bulb-outs.

- Leading Pedestrian Intervals may be used at major intersections such as Michigan Avenue and Lincoln Boulevard or Virginia Avenue and Cloverfield Boulevard if the pedestrian and vehicle traffic there warrants this improvement.

Design Criteria and Technical Considerations

- Crossings can be designed to incorporate the branded MANGo paving pattern in order to enhance the visual identity of the MANGo route.

- Push buttons may be used at signalized intersections along the route.

- See Chapter 3 for design recommendations for new and enhanced route connections such as the 20th Street bridge.

Community Recap

- Slow Traffic Down
- Encourage Neighborhood Walking, Biking, Mobility
- Make Creative & Safe Community Space for All Ages
- Enhance with Greening and Sustainable Features
**Tool 11: Traffic Diverter**

**Purpose & Definition**

A traffic diverter is an island built at a street intersection that reduces traffic volumes by preventing certain vehicular turn movements and cut-through traffic. Diverters come in many shapes and sizes depending on the flow of traffic that should be restricted and are often used in areas that experience a high amount of traffic overflow from nearby streets or freeways, such as the MANGo corridor. Diverters also allow for the expansion of ‘curb space,’ which can shorten the crossing distance for pedestrians. They can also be planted for comfort and to reduce the negative effects of urban runoff.

**Placement and Size**

At later phases of the project, a traffic diverter may be included at the intersection of 11th Street and Michigan Avenue. The diverter would preclude westbound through vehicular traffic on Michigan Avenue as well as vehicular traffic turning from 11th Street to westbound Michigan Avenue. Eastbound vehicles would still be able to make left, right, and through movements.

**Design Criteria and Technical Considerations**

- The diverter should be planted with low understory landscaping (to comply with required sight-lines for vehicles and cyclists).
- The diverter should be designed with bicycle access such as a cut-through to allow bike movement in all directions.
- Additional signage and striping may be included to alert drivers, cyclists, and pedestrians to the diverter.
- The diverter can be coupled with a bulb-out on the opposite side of the street, to make it clear that traffic movements are restricted and to further shorten the pedestrian crossing.

- The bicycle cut through may use breakaway or removable bollards along the edge of the island to enforce restricted vehicular movements.
- Reduce space between island and opposite bulb-out to 12 ft.
- Provide a rolled curb along the edge of the diverter island to maintain a 20ft clear zone for emergency vehicles.

**Community Recap**

- Slow Traffic Down
- Encourage Neighborhood Walking, Biking, Mobility
- Make Creative & Safe Community Space for All Ages
- Enhance with Greening and Sustainable Features

“I like the diverter. People will get used to finding other ways!”
- Workshop Participant, Pop-Up MANGo

**Typical Diverter**

**Legend**

1. Extended Planted Area
2. Diverter (Rolled Curb Island)
3. Bicycle Cut-Through
4. Bulb-Out on Opposite Side of Street
5. Safety and ID Signage at Head of Diverter
Local Application: Santa Monica, CA

Santa Monica has already implemented a number of diverters throughout the community. The diverters shown below are located at La Mesa Drive and 26th Street (top), Exposition Boulevard at Warwick Avenue (middle), and 6th Street at Pico Boulevard (bottom).
Tool 12: Bicycle Sharrows

**Purpose & Definition**

Sharrows, or Shared-Lane Markings, are painted markings in the road that indicate that vehicles and cyclists are sharing a lane of traffic. Sharrows increase visibility of cyclists, remind motorists that cyclists have the right to the full lane, and alert motorists to proceed with caution while sharing the lane. Sharrows are a typical element of bike-friendly streets and Neighborhood Greenways. Sharrows help cyclists position themselves safely in the street away from the car “door zone” and also help to indicate cycle paths when turning or shifting.

Studies completed by the Federal Highway Administration have found that 94% of cyclists rode over the shared lane marking, and the percentage of motorists who yielded to give way to a cyclists almost doubled from 5% to 9.5%.

On Michigan Avenue and most of the other MANGO streets, sharrows are used because adding a bike lane would require the reduction of parking on one or both sides of the street.

**Placement and Size**

The Federal Highway Administration recommends that a sharrow marking should be 112 inches long and 40 inches wide to increase visibility among motorists. Sharrows should be spaced at the beginning of each block and then approximately every 200-250 ft. apart from one another to maintain consistency and legibility, but may be placed closer. At all turns in the MANGO route, the orientation of the chevron symbol marking should be adjusted directionally to indicate the turn as recommended in the NACTO Design Guide. The sharrows should be placed in the center of the travel lane.

**Design Criteria and Technical Considerations**

- The background of the sharrow may be colored to enhance its visibility (see Green-backed Sharrow precedent on following page).

---

**Community Recap**

- **Slow Traffic Down**
- **Encourage Neighborhood Walking, Biking, Mobility**
- **Make Creative & Safe Community Space for All Ages**
- **Enhance with Greening and Sustainable Features**

“Bike signage helps tell drivers to slow down.”

- Workshop Participant, Pop-Up MANGO

**Typical Sharrow Marking**

**Legend**

1. Sharrow Markings on Street
Sharrow Examples

As one of many local examples, there are a series of sharrows on 14th Street between Washington and Montana Avenues. The sharrows were placed in 2010 and markings are placed at the beginning and end of each intersection. Today, the City has over 18 miles of sharrows.

Local Application: Santa Monica, CA
Tool 13: Speed Signage

**Purpose & Definition**

Posted speed limit signage is an effective and relatively low-cost measure used to enhance awareness of the speed limit. The existing speed limit is 25 MPH on the street, yet there are very few speed signs along the MANGo route. The MANGo Concept Plan recommends a speed limit and target design speed of 20 MPH to further ensure slow and safe speeds for cyclists and pedestrians. Regular and consistent speed limit signage along the corridor will remind motorists of the legal speed limit and will aid in the effort to slow traffic along the MANGo corridor.

Slower speeds account for vastly improved pedestrian and cyclist safety. Studies have shown that slowing traffic reduces the chances that a collision involving automobiles and pedestrians or cyclists is fatal.

Speed signage can also be coupled with digital radar speed detector signs (depicted, right). These signs show the posted speed limit and the speed of the motorist approaching the sign. These signs have been shown to increase awareness of speeding, and studies show that speeders slow down up to 80% when they are alerted by a radar sign.

---

**Community Recap**

- Slow Traffic Down
- Encourage Neighborhood Walking, Biking, Mobility
- Make Creative & Safe Community Space for All Ages
- Enhance with Greening and Sustainable Features

“It’d be great to slow down speeders.”

- Workshop Participant, Pop-Up MANGo

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Typical Speed Signage with Digital Radar Speed Detector

City and State Officials Unveil New Speed Limit Signage for a Neighborhood Greenway in Portland, OR
Tools 14 & 15: Vehicular Restrictions and Signal Modifications

**Purpose & Definition**

Vehicular restrictions reduce traffic volumes while allowing for flexibility during non-peak traffic times, and would result in fewer motorists along the MANGO route at peak-times. Restrictions can be used effectively to control cut-through traffic, a concern raised during the MANGO visioning process. Installing restriction signage is a relatively low cost option to reduce peak-hour traffic.

Restrictions are commonly used in place of a diverter when the traffic volume issue clearly peaks during a defined time period (as opposed to the full day) or is associated with a specific turning movement at an intersection.

Traffic signal modifications can be implemented separate from or in conjunction with turn restrictions to achieve a similar objective to reduce automobile movements at an intersection in a specific direction. Examples of potential signal modifications include shortening or reducing the green time allocated for specific turning movements that the City may want to discourage or eliminating a signal phase (such as a protected left turn) that facilitates a specific turning movement. Leading pedestrian intervals, where pedestrians are given a lead time to cross the street before vehicular traffic can proceed, are another signal modification tool that can be employed. See Tool 10 for information on the Leading Pedestrian Interval.

**Placement**

Turn restrictions are recommended at peak hours for Lincoln Boulevard and Michigan Avenue, to match the concurrent Safe Routes to School Project recommendations: “No Right on Red” for southbound movement on Lincoln Boulevard with potential for turn restrictions as well for right turn movements from northbound Lincoln Boulevard to eastbound Michigan Avenue.

Vehicular restrictions may be introduced to restrict westbound traffic on Michigan Avenue at 11th St, from 7:00-10:00 am and from 3:00-5:00 pm on weekdays.

**Design Criteria and Technical Considerations**

- Restrictions require police enforcement activities to ensure compliance. Compliance with signage is most effective when it is coupled with strong police enforcement. The Los Angeles Department of Public Works has found that in un-enforced areas, motorists violate the restrictions at a rate of 50%. Conversely, enforced restrictions drastically reduce the violation rate to 20%.

“Instead of a diverter, use traffic restriction signage for certain hours (school hours only)”

- Workshop Participant, Pop-Up MANGO
Other enhancements should include the following:

**Special and Permeable Paving**
Special and permeable paving can help to make the route more identifiable as a place that provides a pleasant urban realm for pedestrians and cyclists, and one that emphasizes green and sustainable features as well. These enhancements are to be added as indicated in the overall map at the beginning of Chapter 3.

**Green Wave**
A “Green Wave” is an system of intentionally timed traffic signal lights that facilitate the easy and regular flow of traffic at a prescribed speed. In this case, the Green Wave can be used to facilitate bicycle traffic as is done in San Francisco, Copenhagen, Amsterdam, and many other cities. Traffic lights would be signalized to accommodate the flow of cyclists along the MANGo route, so that cyclists can catch successive green lights for several blocks.

**Public Art**
Santa Monica has a strong tradition of including public art along its streets and in public spaces. The City currently has over 40 works of public art on its streets, parks, and beach. The MANGo route affords the possibility of including public art along the route either as integrated objects (for instance artful bike racks, benches, or street lights) or as stand-alone artwork, for example at mini-parks or at key nodes or entrances to the route (e.g. at the Expo Station). MANGo public art can be designed through a participatory community process.
**Bicycle Detection**

Used along many of Santa Monica’s streets, bicycle detection triggers a green light when cyclists are present at a signalized intersection. Detectors are often coupled with signage and stencils that shows cyclists where to position their bikes. Bicycle detection can be included at all signalized intersections.

**Bicycle Boxes**

Bicycle boxes are painted areas in advance of the traffic stop bar, where cyclists can wait ahead of vehicular traffic, giving them a safer place to start a left turn and a head start when the light changes. Bicycle boxes are to be included at busy intersections along MANGo that connect to other streets in the bike network, in particular where left turns for bikes may be more prevalent.

**Bike Fix-It Station**

This tool includes a station with a complete set of tools for bike repair. These stations could be located at Virginia Avenue Park, schools, and other hubs along the route.
CHAPTER 5:
DESIGN PALETTE

This chapter recommends a palette of street furniture, lighting, amenities, trees, and landscape for the Greenway to make it comfortable, inviting, and recognizable.
During the community design process there were several amenities desired by the community, such as lighting, trees and greening and street furniture, which are presented in this chapter.

When placed regularly and frequently, these elements will help contribute to the sense of place along the MANGo corridor and will help make the corridor easily identifiable because of the consistent look and feel of the amenities. These elements selected by the community will encourage walking and biking, social gathering, safety, and community pride—all elements of neighborhood building and of a well-functioning Neighborhood Greenway. Trees and landscaping have been selected because of their water-wise, hearty, and aesthetic qualities, as well as their ability to help cleanse the air.

The elements included in this chapter are representative rather than prescribed, in terms of product type and design. This chapter focuses more on the types of elements to include along MANGo rather than the design of the elements. Some of the models shown here are city standards while some are new typologies and models that are non-standard. Street furniture types and tree types will be selected in later phases, using this chapter as a guide.

Selected street furniture should:
- Present a cohesive visual voice, encouraging visual and design consistency along the full route and as implemented in phases.
- Assure compatibility with the neighborhood in terms of scale and character.
- Differentiate the route from other places in the City, so that it is identifiable as a Neighborhood Greenway and a special place.
- Use recyclable and sustainable materials.

These elements selected by the community will encourage walking and biking, social gathering, safety, and community pride—all elements of neighborhood building and of a well-functioning Neighborhood Greenway.
## Street Furniture Types: Seating and Planters

<table>
<thead>
<tr>
<th>Seating</th>
<th>Typical Placement:</th>
<th>Notes:</th>
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<tbody>
<tr>
<td>Mini-Parks. Bulb-outs and corners of slow movement intersections, where space permits. Near or adjacent to neighborhood destinations, such as Virginia Avenue Park, Edison Language Academy, Santa Monica High School, the Expo Line Station, and where MANGo intersects with the beach and bike trail.</td>
<td>Benches and chairs can be placed in mini-parks and at key nodes along the route to encourage social interaction and give pedestrians a place to rest. As a city-standard, the Plainwell bench pictured left, has been used in various other locations throughout Santa Monica. Eventually, non-standard benches may be selected for MANGo to give a unique and identifiable character along the Neighborhood Greenway. Product Shown: Plainwell by Landscape Forms</td>
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<tr>
<th>Seating Clusters</th>
<th>Typical Placement:</th>
<th>Notes:</th>
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<tr>
<td>Mini-Parks.</td>
<td>Flexible seating areas, such as the one pictured left, encourage sociability but leave open the option to sit apart. Used in multiples, the benches can be used to encourage different forms of interaction. Many residents at Pop-Up MANGo discussed that they would like to have places along the route where neighbors can gather and meet up. Product Shown: Hello Stranger Bench by Citysquared</td>
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<thead>
<tr>
<th>Planters and Bollards</th>
<th>Typical Placement:</th>
<th>Notes:</th>
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<tbody>
<tr>
<td>Mini-Parks edges. Along pedestrian pathways and multi-use pathways. Bollards along the edges of the sidewalk areas at slow movement intersections.</td>
<td>Used to differentiate pedestrian zones from vehicular zones or from bicycle zones, planters and bollards such as these pictured left, can improve safety as well as increase the visibility of pedestrians and cyclists. Products Shown: MLP400 Series Planter and MTB750 Series Bollard both by Maglin</td>
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</table>
Street Furniture Types: Street Lighting

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<th>Street Lighting</th>
<th>Typical Placement:</th>
<th>Notes:</th>
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<tr>
<td>Light fixtures should address both the roadway and the sidewalk, which is critical for the MANGo corridor. Sidewalks should be well-illuminated. The Capella Lighting Series by LUMEC, pictured left, is an LED lighting fixture that has been used elsewhere in the City.</td>
<td>All streets along the MANGo route. Pedestrian lights should be infilled between existing, vehicular oriented lighting. In addition, pedestrian lights could be attached to existing roadway light poles.</td>
<td>Product Shown: <em>Capella Series</em> by Philips LUMEC</td>
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<tr>
<th>Pathway Lighting (small)</th>
<th>Typical Placement:</th>
<th>Notes:</th>
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<tbody>
<tr>
<td>Small lights can illuminate pathways and edges. The Lo-Glo LED lights pictured left, are high-functioning street light fixtures that are energy efficient. The light is oriented to the sidewalk or pathway rather than the roadway.</td>
<td>Mini-parks and along multi-use pathways.</td>
<td>Product Shown: <em>Lo-glo</em> by Landscape Forms</td>
</tr>
</tbody>
</table>
Street Furniture

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<thead>
<tr>
<th>Bike Racks</th>
<th>Typical Placement:</th>
<th>Notes:</th>
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</thead>
</table>
|                    | Bike racks can be placed as a single rack or in line for multiple bike parking stalls. Bikes racks should be prominently placed, near main entrances and in highly-visible locations, but out of the pedestrian path of travel. The look and character of the bike rack model selected should be compatible with the rest of the street furniture family. | Product Shown, Top: *Ride* by Landscape Forms  
Product Shown, Bottom: *Trak-Lok* by Sunshine U-Lok Corporation |

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<tr>
<th>Bike Repair Station</th>
<th>Typical Placement:</th>
<th>Notes:</th>
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<td></td>
<td>These stations include all the tools necessary to perform basic repairs and maintenance, from changing a flat to adjusting brakes and derailleurs. The tools and air pump are securely attached to the stand with tamper-proof fasteners and cables.</td>
<td>Product Shown: <em>Fixit</em> by Dero</td>
</tr>
</tbody>
</table>
The following plants are recommended for use within the traffic circles. These plants are native climate and adaptive, waterwise, provide perennial and seasonal interest, and require little maintenance. The California Sycamore, a native Californian tree, grows large and is deciduous could be used within the traffic circles. This tree is included as one of Santa Monica’s Top 15 Trees and has high overall annual benefits in atmospheric carbon removal (438 pounds per tree) and annual economic benefit ($314 per tree). It also has other benefits such as storm water retention, energy savings, air quality improvement, and carbon sequestration.

All selected plants should be compatible with the City’s emphasis on water-efficient landscaping and irrigation as well as the City’s already-established landscape palette. Plant types listed here are recommendations only. In future phases of the project, plant and tree types would need to be selected.
This Plan recommends the future identification of two to three tree types that will help to define the corridor visually. These trees could be infilled where trees are missing or where existing street trees have to be replaced or removed. Likewise new trees could be added within the parklets, traffic circles, and other street improvements. Trees along the MANGo corridor should be selected in coordination with the Urban Forest Task Force. Desired characteristics of MANGo street trees include:

- Recognizable, ornamental color, shape, or similar features that help to establish a clear identity for the corridor. As an example, the Marina Strawberry Tree (Arbutus marina) could be used along Michigan Avenue and the New Zealand Christmas Tree (Metrosideros excels) and the Firewheel Tree (Stenocarpus sinuatus) could be used on the other MANGo streets, since all three of these evergreen trees exhibit a similar shape and red seasonal color.
- Low maintenance, water-wise, native, or adaptive, and relevant for the Santa Monica climate.
- Appropriate for use as street trees and for use in the existing narrow parkways, in terms of roots and trunk sizes.
- Evergreen for year-round shade.
- A high-canopy that provides shade for the sidewalk, but does not impede sight lines or lighting for safety.
- Appropriate for infill-use, between existing street trees.
- Compatible with the Urban Forest Master Plan.

All landscaping, planting, and related irrigation should comply with the City’s Water-Efficient Landscape and Irrigation Standards, where applicable.
The understory planting palette has been recommended because it corresponds with the palette already in place within Santa Monica for similar streetscape improvement areas and the plants selected are water-wise, native or California-friendly, hearty, visually-appealing, and provide perennial and seasonal color. Recommended understory plants include those depicted, left and below. The general intent of the landscaping within the parklets, bulb-outs, traffic circles, and other improvement areas should be to provide the MANGO corridor with an environmentally-sensitive palette of trees, shrubs, and plants that help to cleanse the air, use low-amounts of water, provide noise buffers, and beautify the street. Plants should be selected that are compatible with the City’s emphasis on water-efficient landscaping and irrigation as well as the City’s already-established landscape palette. Plant types listed here are recommendations only. In future phases of the project, plant and tree types would need to be selected. Note that parkways will continue to be maintained and planted by property owners. Property owners are encouraged to use the MANGO planting palette for parkway landscaping.
These plants can help to purify the air adjacent to the freeway along the MANGo route and they are fast-growing climbers that can be trained onto a sound wall or fence, or trained to screen undesirable views. The Pineapple Guava is a shrub that can be grown in front of a wall or fence as an option, and is preferable from a maintenance perspective. The plants are climate adaptive, water-wise, and provide seasonal interest.
CHAPTER 6: PHASING

This chapter presents an incremental approach to implementation of the MANGo Concept Plan, focusing on safety and impactful efforts as well as coordination with other ongoing planning efforts.
The phasing plan presented in this chapter introduces the traffic calming strategies, traffic diversion strategies, and other improvements in an incremental process. This approach allows for the City to observe and monitor the performance of specific measures and strategies and then flexibly adjust and modify strategies to achieve the project objectives.

Phase 1: The Central Greenway

The phased approach also allows residents in the surrounding neighborhoods to adjust to the changes and strategies over time and provides opportunities for feedback from the residents to the City regarding what strategies are working and what strategies may need refinements.

Generally, the phasing plan calls for the implementation of the Central Greenway Segment as a near-term priority. The mid-term focuses on implementation of the Wiggle and Bergamot Connector with a study of the Beach Connector, followed by implementation of the Beach Connector in the long-term.

The following page discusses the improvements that are “low hanging fruit,” easy fixes, and/or high priorities for the community. Some of these improvements can be implemented corridor-wide as a first-order of business before or during Phase 1.

Phase 2: The Neighborhood Wiggle & Bergamot Connector

Phase 3: The Beach Connector
Quick and Impactful Fixes

Many of the recommendations outlined in this Plan can be implemented in the short-term as quick fixes to jumpstart the MANGo project before or during Phase 1. These improvements are relatively affordable, easy to implement, and would have significant impact on the character and usability of the MANGo corridor. Generally these elements can be placed along the entire MANGo route, unless otherwise noted and include:

- **Sharrow Markings:** Sharrow markings can be painted in the roadway to enhance the experience for cyclists on the MANGo route.

- **Leading Pedestrian Interval:** Leading pedestrian intervals can be introduced at intersections that experience high pedestrian collisions, such as Lincoln Boulevard and Michigan Avenue.

- **Vehicular Restriction Signage:** Signage to reduce the volume of automobiles on westbound Michigan Avenue could be installed at 11th Street.

- **Speed Limit Signage:** Signage can be placed along the corridor to slow speeding automobiles.

- **“Temporary” Traffic Circles:** Temporary traffic circles can be installed in the roadbed prior to the construction of permanent installations as indicated. The traffic circles between Lincoln Boulevard and 17th Street are priorities.

- **Wayfinding:** Installation of wayfinding signage will help users navigate the corridor.

- **Encouragement:** In concert with the schools along the corridor, the City could host training rides for students and their families to showcase the MANGo and assist with pedestrian and cyclist route planning.
Phase 1: Near Term (0 - 5 years)

Phase 1 is focused on building the Central Neighborhood Greenway Segment (along with any or all of the “Quick and Impactful Fixes” and priority items listed on the previous page).

This initial phase will begin to brand the Corridor, establish the east-west connection, and set the stage for future MANGo phases.

It will be important to include a branding plan, signage/logo design, and materials selection to be used throughout MANGo. Coordination with the ongoing City signage study as well as the Safe Routes to School projects at Samohi and Edison Language Academy will also be critical.

The City should evaluate changes in traffic volumes, speed, and collisions pre- and post- Phase 1. Detailed findings from the City of Santa Monica will inform the application of traffic calming or reduction interventions in future phases.

Throughout all phases street trees can be added as necessary.

Central Greenway

In the Central Segment, this phase includes treatments that both calm traffic and beautify the central core of the MANGo route. Introduction of the traffic circles and bulb-outs, which both include new landscaping, will start to establish a clear identify for MANGo. A mini-park project can be selected at this stage and piloted/vetted with community stakeholders. Likewise, a green screen adjacent to the freeway can also be piloted at this stage.

Full Corridor

Within the full corridor, vital Greenway elements can potentially be added where possible, such as those discussed on the previous page.
Phase 2: Mid Term (5 - 8 years)

Phase 2 of the MANGo Concept Plan will extend traffic calming measures through the Pico Neighborhood to the east along the Neighborhood Wiggle and the Bergamot Connector. At this stage, the Beach Connector can be further studied for future improvements.

Neighborhood Wiggle

Along with the other vital Neighborhood Greenway components like lighting, trees, landscaping, signage, sharrows, etc., Phase 2 introduces traffic circles, chicanes, slow movement intersections, and bulb-outs in the Wiggle, along with identity-building amenities. Bike amenities and street furniture should be implemented in this stage, specifically centered around Virginia Avenue Park.

Central Greenway

Based on the before-and-after analysis of the turn restrictions on 11th Street implemented as part of Phase 1, a traffic diverter at 11th Street and Michigan Avenue may be introduced in Phase 2. It is recommended that the City of Santa Monica review and monitor the average daily traffic volumes on Michigan Avenue between Lincoln Boulevard and 11th Street and between 11th street and 14th Street on an annual basis following the implementation of the turn restrictions at 11th Street and traffic circles between Lincoln Boulevard and 14th Street. If the daily traffic volumes on Michigan Avenue within these two segments do not reduce to a level below the target of 2,000 vehicles per day during the monitoring time frame, the city should consider the installation of a diverter or other measures to further reduce traffic volumes along this section of Michigan Avenue.

Bergamot Connector

Along with the other vital Greenway components like lighting, trees, landscaping, signage, sharrows, etc., Phase 2 includes construction of a multi-use bicycle and pedestrian path between Crossroads School and the freeway, using a portion of the Caltrans right-of-way, along with an easement provided by Crossroads School. Between Crossroads School and Cloverfield Boulevard on Michigan Avenue, chicanes and placemaking features are introduced with modifications to Cloverfield Boulevard. East of Cloverfield Boulevard on Michigan Avenue, MANGo enters Bergamot Station with Bike parking at the Expo station and wayfinding through the Agensys campus.

<table>
<thead>
<tr>
<th>Improvement</th>
<th>Central Greenway</th>
<th>Neighborhood Wiggle</th>
<th>Bergamot Connector</th>
<th>Beach Connector</th>
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<tbody>
<tr>
<td>Roadway / Traffic</td>
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<td>Traffic Circles</td>
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<td>Chicanes</td>
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<td>Street Trees</td>
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<td>Bioswales</td>
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<td>Placemaking Elements</td>
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<td>Public Art</td>
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<td>Street Furniture, Benches</td>
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<td>Street Furniture, Chairs</td>
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<td>Coordination with Safe Routes Projects</td>
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- ● Implement
- Study for future improvements
Phase 3: Long Term (8 + years)

Phase 3 will introduce traffic calming treatments, identity building, and placemaking elements to the Beach Connector. Phase 3 completes the MANGo full build-out.

**Beach Connector**

At this stage, the Beach Connector can be implemented and enhanced through establishment of the multi-use path on Olympic Drive, crossing enhancements across Ocean Avenue and Olympic Drive, and other amenities as appropriate.