

Policy Recommendations for Implementing Living Streets



What Are Living Streets and Why are They Important?

Our streets are arterials that touch and connect every person in every neighborhood in Los Angeles. There are arguably no other infrastructure projects that can have a greater impact on the health of Angelinos and the environment of urban L.A. A Los Angeles with Living Streets is greener, cooler, healthier and more connected for all its residents.

Living Streets promote environmental benefits, making the areas around them more livable, walkable and with the flexibility to adapt to climate change, by specifically facilitating increased multi-modal transit trips, and providing protection from increased temperatures and storm intensity. Now is the time for the City of Los Angeles to connect, leverage and promote significant, but separate, quality of life improvement efforts currently underway.

The Mobility Plan 2035 offers a toolbox straight from the Complete Streets handbook. The Green Streets Committee and the stakeholders involved in the OneWater plan are building on the Green Street movement's foundation. L.A.'s Sustainability City pLAN speaks directly to the need for cool streets to address the impacts of the Urban Heat Island effect.

Combined, these efforts present a comprehensive approach called Living Streets. This report makes the case for Living Streets and is a call to action to support their creation.

Living Streets are the Best Investment for Society

Living Streets make economic sense and provide 75% more in benefits to society than the usual street projects we see today. When compared to a simple, business as usual repaving project, the Living Streets approach, which combines Complete, Green and Cool street elements, has the highest net present value (meaning a positive net value of all cash inflows and outflows—expenses and benefits—computed in 2015 dollars).

In this analysis, the Living Street approach for 1,000 centerline miles in 30 years produces an additional \$5.35 billion in total benefits to society when compared to simple repaving, and more than \$3.04 billion when compared to the next highest non-traditional street design (Complete). In addition, Living Streets produces \$2.78 billion more in net present

value over the lifetime of the project as compared to simple repaving.

Attracting Funding

There is a growing trend, especially at the state level, to prioritize grant funding for projects that can demonstrate multiple benefits. Therefore, a Living Streets approach could potentially access more funding sources than traditional single purpose street projects.

Examples include recent grant programs like the Active Transportation Program (ATP), SB535 Green House Gas Reduction Funds and Prop 1 Water Bond programs. In addition, the Living Streets approach presents an opportunity to expand the range and type of funding sources that can be applied to infrastructure projects that meet multiple objectives.

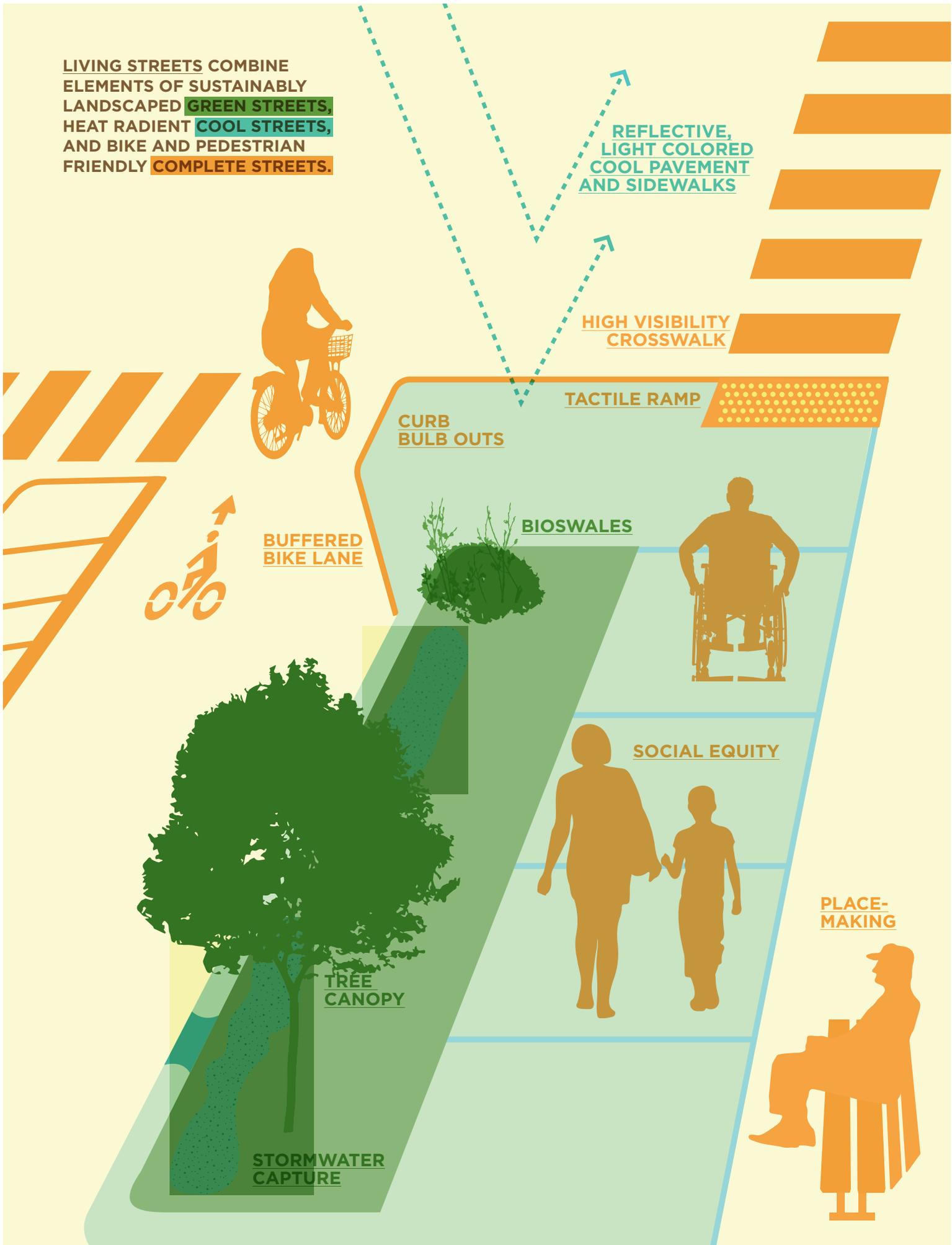
Creating a Livable & Resilient Los Angeles

A Living Street naturally manages stormwater, reduces the risk of floods, captures pollution, improves water quality, provides safe access for all modes of travel, and encourages community activity in our public spaces and input from local people in its realization. A Los Angeles with Living Streets is greener, cooler, healthier and more connected for all its residents.

By taking a Living Streets approach, L.A. could take a significant and much needed step toward meeting our city's and state's sustainability goals, while simultaneously making our most vulnerable community members more prepared in the face of anticipated climate impacts.

Not every street can, nor should, include every physical aspect of a Living Street. However, every street project should go through a Living Street checklist that considers multiple strategies to improve neighborhoods for people today, and assures a climate resilient tomorrow.

LIVING STREETS COMBINE ELEMENTS OF SUSTAINABLY LANDSCAPED **GREEN STREETS**, HEAT RADIANT **COOL STREETS**, AND BIKE AND PEDESTRIAN FRIENDLY **COMPLETE STREETS**.



REFLECTIVE, LIGHT COLORED COOL PAVEMENT AND SIDEWALKS

HIGH VISIBILITY CROSSWALK

TACTILE RAMP

CURB BULB OUTS

BIOSWALES

BUFFERED BIKE LANE

SOCIAL EQUITY

PLACE-MAKING

TREE CANOPY

STORMWATER CAPTURE

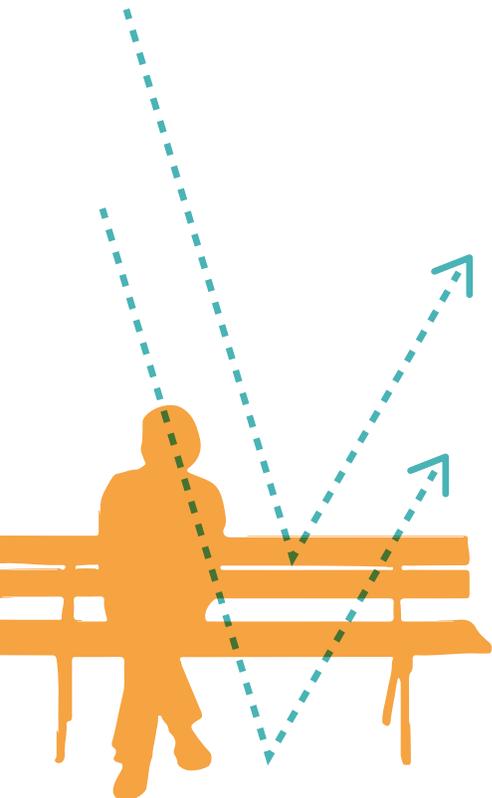
A Living Streets Approach is Within Reach

Existing efforts to implement Complete Streets by the City Planning and Transportation Departments, and Green Streets by the Department of Public Works, can be combined to achieve most of the Living Streets objectives. Later, when cool pavement is tested and approved by the City, it should be relatively straightforward to include it, bringing the full suite of Living Street options to Los Angeles.

Importantly, the necessary inter-agency coordination for Living Streets projects will require a new approach that starts with advance planning to proactively identify opportunities for integration of multi-jurisdictional and multi-benefit capital improvement projects. The City currently does not have the organizational structure in place for this level of coordination, except on a per-project or ad-hoc basis. Several plans and efforts seek to improve and/or create a structure for inter-departmental coordination, which are described below.

Now is the time to implement Living Streets for Los Angeles. Six existing efforts are ready to contribute to a framework for Living Streets. What follows describes a Living Streets framework, drawn together from these current plans:

- A) Mayor's Sustainable City pLAN**
- B) Mobility Plan 2035**
- C) Green Streets Committee and Green/Great Streets Collaborative**
- D) OneWater LA Program (inclusive of the LADWP Stormwater Capture Master Plan and the four city-led Enhanced Watershed Management Plans)**
- E) Stormwater Management Guidelines (Councilmember Fuentes' motion 14-0748)**
- F) Sidewalk Repair Policy**



A) Sustainable City pLAn – A Vision for a Livable Los Angeles

Mayor Garcetti's Sustainable City pLAn provides a vision and proposes metrics, guiding city departments to act holistically and with coordination, to produce multi-benefit projects. The plan identifies those efforts in the City with the most potential impact on sustainability and lays out specific targets to ensure goals are achieved. Some of the action targets, or quantifiable goals, most relevant to Living Streets include:

- Identify a funding mechanism by 2017 to implement the Enhanced Watershed Management Plans necessary for MS4 compliance.
- Develop a comprehensive climate action and adaptation plan by 2017, including a standardized GHG inventory (which should include Living Streets).
- Reduce the urban/rural temperature difference (5.58°F in 2012) by 1.7°F in 2025 and 3°F by 2035.
- Implement improvements on 15 Great Streets by 2017.
- Reduce daily VMT per capita by 5% in 2025 and 10% in 2035.
- Increase the percentage of trips made by walking, biking or transit to at least 35% in 2025 and 50% in 2035.
- Increase L.A.'s average Walk Score (64 in 2014) to 75 by 2035.
- Reduce the number of census tracts in the top 10% of CalEnviroScreen (190 in 2014) by 25% in 2025 and 50% in 2035.

The pLAn identifies opportunities that exist today to meet the City's sustainability and livability goals. The Mayor and his staff provide the leadership and vision. However, action by the City Council is required to translate the proposed metrics into actionable steps for the City to meet these targets.

B) Mobility Plan 2035

The Mobility Plan 2035 developed by the Departments of City Planning and Transportation, and recently adopted by the city council, is a clear and ambitious transportation infrastructure plan with simple, effective ways to both track and inspire progress. Its goal to end collision fatalities in L.A. by 2035, Vision Zero, is a far-reaching and easy-to-understand example of one such measurement or target. The Mobility Plan 2035 explicitly states that all street projects are to be Complete Streets that are accessible and safe for all users. The departments created the plan in order to guide decisions that better balance competing priorities for limited public roadway space, in compliance with state policy. The plan, therefore, consists of an integrated system of streets planned to fit into one or more of these categories: Neighborhood-Enhanced, Bicycle-Network, Transit-Network, Goods-Movement and even Vehicle-Networks, with certain districts designated as Pedestrian-Enhanced. By including the Greenways to Rivers Arterial Stormwater System (GRASS network, PL.12) as one of its programs, it extends the framework beyond transportation to incorporate green infrastructure in a rational and systematic way. This is unusual in a Mobility Element, but it is another example of the significant cross-pollination that occurred between the Mayor's Sustainable City pLAn and the Mobility Plan.

Great Streets for Los Angeles: Complete Streets Design Guide (CSDG) was adopted as a companion to the Mobility Plan and is meant to be a living document. The design guide was developed to support the creation of safe, accessible and vibrant streets. Intended to be updated every two years or as needed, the CSDG (program ENG.12) is meant to guide decisions about specific Complete Streets enhancements and potential cross-section designs of streets on the layered networks of the Mobility Plan. The regular updates to this manual could be an important implementation tool for Living Streets.

One promising sign for the future is in the ways in which multiple departments within the City collaborated in the production of the plan and its CSDG, and continue to cooperate on an ad-hoc basis on the development of its programs and policies.

C) Green Streets Committee

City staff and policymakers have acknowledged the importance of using our street infrastructure to manage stormwater, and are working to standardize plans and integrate projects through its Green Streets Committee (GSC). The GSC was formed in 2008 by the Board of Public Works to create a framework to implement green infrastructure projects that would help the City meet its water quality objectives, while also providing additional multiple benefits, such as water infiltration, improving air quality and providing pedestrian enhancements.

The committee is a monthly forum that facilitates inter-agency cooperation necessary to implement Green Street infrastructure projects. The committee's activities are focused on increasing collaboration among departments, identifying potential green streets projects, and addressing obstacles to implementing green streets as a standard practice. The work of the Committee¹ may be viewed as a model of collaboration that should be institutionalized in the City.

The most recent example of a model collaboration began in early 2015, when the committee recognized an important opportunity to ensure the Mayor's Great Streets Initiative included green street infrastructure whenever feasible. In June 2014, Mayor Garcetti announced the Great Streets Initiative to "improve neighborhood gathering places and generate economic activity by revitalizing key community corridors." Fifteen street improvement projects in various stages of development were selected for extra attention and coordination by the Mayor's office.

The GSC focused the first six months of 2015 on evaluating each street for its suitability for green infrastructure. Of the initial 15 streets, three were determined to be immediately suitable for green infrastructure and eligible for matching funds from Los Angeles Department of Water & Power and/or Bureau of Sanitation.

This collaboration demonstrated a small-scale version of an inter-agency process that demonstrated the opportunities and challenges of integrating green street elements into existing street improvement projects. In terms of whether the current Green Street/ Great Street collaboration is a good model for Living Streets, this particular effort is limited by the fact that the current Great Streets are

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examples of the City's existing approach to delivering improvements. The Great Streets were identified on the basis of local Council District input and other factors, including funding availability. Since the suitability for green infrastructure was evaluated after the streets were selected, the project sites might not be the best suited for green infrastructure development, in terms of being the most cost effective and having maximum impact. If the collaboration continues, with more advanced planning the collaboration could provide an opportunity for greater and more intentional collaboration that could produce model Living Street projects.

¹ In addition, One Water LA, the Integrated Regional Water Management Planning effort and the Enhanced Watershed Management Plans are all formal processes of inter-agency collaboration for green infrastructure. The challenge with the latter two is that they include geography beyond the boundaries of the City.

D) OneWater LA Program - One Water Los Angeles 2040 Plan

The OneWater LA Program, led by L.A. Sanitation and LADWP, is a promising effort to expand the scope and planning horizon of the City's original Integrated Resources Plan (IRP) for water. Although the OneWater LA branding is relatively new, the effort is a continuation of the water IRP collaboration effort that began 10 years ago. The water IRP resulted in an implementation plan through 2020. OneWater LA will create a "OneWater Los Angeles 2040 Plan" that considers evolving environmental, economic, social, and sustainability factors.

OneWater LA will strengthen the City's framework to foster inter-agency/departmental collaboration and integration to manage L.A.'s watersheds, water resources and water facilities in an environmentally, economically and socially beneficial manner. It is guided by the vision of healthier watersheds and livable communities that are resilient against climate change and which protect public health.

This initiative's main focus is to facilitate the integration of all water resource related systems, and increase water reliability and the operational efficiency of the City's utilities. OneWater LA is also seeking to determine how it might incorporate broader water-related efforts led by other City departments, such as City Planning and regional entities like Metro.

During Phase 1 of the program, OneWater LA staff met with city departments and regional entities to identify opportunities for collaboration on water-related projects and policies. As a result, over 40 easy-win proposed policies and recommendations were identified to increase cross-departmental collaboration and efficiency.

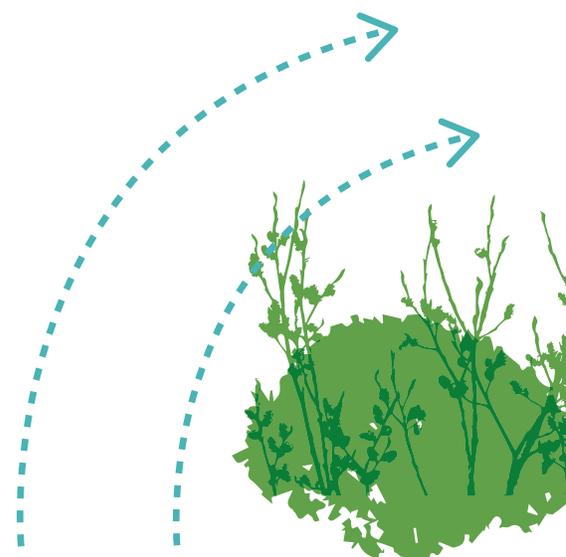
Phase 2, the development of the OneWater Los Angeles 2040 plan, commenced in August 2015 and will continue for 18 months. Major deliverables for the plan include: 1) strategies for integration of relevant water-related projects in the City; 2) a wastewater facilities plan; 3) a stormwater and urban runoff facilities plan; 4) recommendations for citywide policies and ordinances; and 5) special studies and recommendations for pilot projects.

E) Stormwater Management Guidelines Handbook/Checklist

Councilmember Felipe Fuentes sponsored a motion entitled "Stormwater Management Guidelines for Public Street Construction and Reconstruction" (14-0748) in June 2014. It requires that all public street construction incorporate stormwater management practices whenever feasible. The motion meets the requirements under the City's MS4 permit to consider the feasibility of infiltration and water supply augmentation while correcting flooding/drainage deficiencies,

City staff are developing a "Stormwater Management Handbook for Public Right of Way Projects" that will present implementation and administrative elements, including definitions, design recommendations, feasibility standards, performance goals and operations, and maintenance details. The motion also calls for the development of a checklist of requirements identifying project standards, and specifying applicable projects and activities.

The staff Handbook and related checklists will effectively create an organizational infrastructure for the integration of stormwater projects in street projects and in other public rights of way (one aspect of Living Streets). In addition, the motion calls for the prioritization of multi-benefit solutions and a review of current departmental performance metrics to better measure the efficiency and effectiveness of such projects.



F) Sidewalk Repair Policy

This policy is being crafted to fulfill the terms of a settlement to address the City's non-compliance with the Americans with Disabilities Act (ADA), the details of which should be released in 2016. The resulting \$1.4 billion Willits settlement will commit an unprecedented level of City workforce and funds to make accessible the system of public sidewalks across Los Angeles, with \$31 million in annual expenses anticipated for thirty years. Meeting the spirit and demands of federal and state accessibility laws will mean improving, in a comprehensive way, our pedestrian paths of travel; and an approach to go beyond repairing miles of sidewalk to include safe crosswalks, lighting, shade and places of rest. It requires all of us to view sidewalks as the integral piece of the transportation network that they are, the one we share every day.

There is political awareness and will to link the construction program of Willits to regional and state goals around transportation and mobility, equitable community development, the environment and accessibility. As much as this sidewalk repair program is an unprecedented opportunity, there is recognition that realizing the projects which could achieve meaningful and multiple co-benefits will require the City departments to collaborate and cooperate in fundamentally new ways. More strategic and longer-range planning is needed to correctly prioritize projects based on data and need, and to enable the City to leverage other funding and investments.

It should be clear that the funding committed by the City under the Willits settlement agreement is primarily intended for construction of accessibility improvements only, and may exclude much of the greening elements that are being discussed. However, the Living Streets Economic Feasibility Report specifically considers street improvement projects that include sidewalk repair as part of its comparison, and shows the overwhelming cost benefits of taking advantage of sidewalk replacement to add Living Street elements.

A broad coalition of local transportation, environmental justice, accessibility and urban forestry advocate organizations came together quickly to support the City in crafting a permanent and sustainable framework for maintaining our public sidewalks. These and other community-based organizations have the level of maturity and organization to work with the

city to meaningfully engage communities and to expand upon the resources dedicated under Willits. Increasingly, public funding sources rank proposals by taking into account the degree of public-private cooperation and evidence of grassroots participation in the development of projects. The Sidewalk Repair program can serve as an excellent platform for this type of organizing to occur, and by touching all property owners it has the potential to mobilize a broad spectrum of involvement.

Cool Streets

The section above describes efforts focused on implementing Green Street and Complete Street infrastructure that the City has been working on for years. The third component of Living Streets, "cool" pavement², has been spearheaded since 2014 by Climate Resolve. The City understands the value of using reflective pavement material to replace regular asphalt, in order to lower temperatures and improve air-quality. The Bureau of Street Services (BSS) has worked with a single manufacturer to develop a "cool" slurry since early 2015, but more testing is needed. Since testing is at a standstill, identifying a new cool slurry manufacturer should be a top priority for BSS. A Request for Information (RFI) to attract new pavement manufacturers should be issued. An RFI will send a signal to the industry that Los Angeles is serious about utilizing a cool paving material.

Once testing is able to verify that the material complies with state regulations and can pass internal standards at the General Services Division, we hope the City will fast-track pilot projects. We expect that once this new cool pavement material is approved and proven, it will be relatively straightforward to make the shift from regular asphalt. It should not require any special policies to be implemented, and we expect that the cost of substituting material should not be a barrier once manufacturing reaches full production scale.

² It is important to note that increasing tree canopy cover is an essential and cost-effective component of cooling urban areas but, for the purposes of this report and the costs/benefits analysis, this is discussed as part of green streets.

Vision & Political Will

City of Los Angeles

The City's efforts to implement a holistic view of our streets indicate a shared vision that could also support Living Streets. The efforts described above have top-level commitment and staff support. However, making sure there is connectivity between Complete and Green Streets efforts will require increased focus, funding, staff resources, and community and political support.

In addition, the Sustainable City pLAN provides a broad framework to move the City towards even greater inter-departmental coordination. Many of its outcome goals can be directly met by applying a Living Streets approach.

Regulatory Mandates

The Sustainable City pLAN and Mobility Plan 2035 were both created to comply with AB 1358 (Complete Streets Act, 2008), AB 32 (California Global Warming Solutions Act of 2006) and SB 375 (Sustainable Communities and Climate Protection Act of 2008). If the political will and existing efforts need a boost, the City's need to comply with water quality regulations provides a powerful incentive to implement Living Streets and identify the necessary funds. Otherwise, the City could face substantial fines and/or legal challenges. The City is required, under regulations that govern the water quality of stormwater and urban runoff discharges into our waterways and beaches (MS4 permit³), to mitigate stormwater and urban runoff from street and road construction projects, including the use of green street infrastructure.⁴ The current MS4 permit requires that the City satisfy 22 Total Maximum Daily Loads (TMDL) regulations; failure to comply will result in financial penalties that could total \$37,500 per day per violation.

To comply with the MS4 permit, the City elected to participate in the development of Enhanced Watershed Management Plans

(EWMPs) for each of the watersheds within its jurisdiction. Each of the four EWMPs that the City leads includes neighboring jurisdictions—adjacent cities and the County of Los Angeles. The EWMPs lists prioritize and track regional green projects that will improve water quality, maximize the use of rainwater to offset freshwater use, reduce the use of imported water, and provide additional benefits to the community. The draft plans were submitted to regulators at the end of June 2015 for approval. The compliance path now requires each of the EWMP planning groups to follow their submitted plan.

The EWMPs contain multiple-benefit projects that must be built in order to remain in compliance with the MS4 permit. While EWMPs specify certain regional scale projects and call for a broadly distributed network of local stormwater managing features, many of the specific distributed projects are yet to be determined. Because tracking and monitoring is also part of the regulatory structure, the EWMPs provide a strong feedback mechanism to track progress of the types of multi-benefit projects considered fundamental to Living Streets. Further, the MS4 permit and EWMPs provide an adaptive management framework that will guide necessary changes, as more is learned about Living Streets water-management features. An adaptive management framework could help facilitate crucial increases in interdepartmental coordination and exchange.

³ Municipal Separate Storm Sewer System National Pollutant Discharge Elimination System (NPDES) Permit, (Often referred to as the MS4 Permit)

⁴ Such as Green Streets defined in Managing Wet Weather with Green Infrastructure: Green Streets (December 2008 EPA-833-F-08-009).

Creating a Living Streets Framework

A Living Streets approach requires a fundamental change in the way the City of Los Angeles has historically viewed its streets, from mostly single-purpose to a comprehensive (multi-benefit) approach. We offer the following steps for developing a Living Streets framework, if the expansion or connection of existing efforts discussed in the previous section is not possible. See appendix A for more details of the steps below.

- **Step 1: Estimate the Scope & Scale of Living Streets** identifies the scope and scale of possible projects.
- **Step 2: Advance Planning Prioritization** prioritizes the most impactful projects for funding that can best advance livability and sustainability goals.
- **Step 3: Implementation—Developing Projects for Funding** begins with identifying a lead agency from the inter-departmental team that will facilitate inter-agency coordination.
- **Step 4: Implementation—Final Project Development & Construction** requires a lead agency to coordinate multiple work plans to keep projects in sync and troubleshoot project delivery challenges.
- **Step 5: Project Evaluation & Monitoring** identifies lead staff to facilitate monitoring and tracking of project performance.

There are other separate informal efforts by city staff to increase inter-agency coordination for multi-benefit projects that may be left without an institutionalized framework. Therefore, we suggest the following tools to facilitate and manage comprehensive Living Streets projects that would not require major policy change or institutional changes—though we hope that changes in practices will lead to a paradigm shift in project planning and implementation.

Cost-benefit Analysis Methodology

The need for the city to develop a project-specific costs-benefits analysis methodology or tool is acknowledged particularly within Sanitation but across all of Public Works and the other entities that participate in the Green Streets Committee (GSC). A costs-benefits tool could build upon the work of the costs-benefits study by Heal the Bay to become a systematic way to prioritize projects. In addition, it would enable the city to prioritize projects that best meet ambitious sustainability goals, which are equally critical, especially to obtain the matching public funds to do so.

Decision Tree/Checklist

A comprehensive multi-departmental Living Streets checklist or decision tree⁵ could guide the identification of potential projects that best match state funding priorities. The decision tree/checklist will make clear the most competitive projects for these funds, which are those that implement the widest range of benefits that meet our sustainability targets more quickly by making the maximum impact.

Appendix E is a chart of metrics that are linked to plans adopted by the City. The chart identifies a limited list of criteria for which data exist and is being or can be tracked. The proposed criteria or metrics were derived from the draft prioritization (Appendix B) and assessment (Appendix D) matrices that were developed by GSC subcommittees. Appendix E is intended as a resource for the creation of a decision tree to prioritize multi-benefit or Living Streets projects.

⁵ A decision tree might allow for a more flexible and nuanced decision making process than a simple checklist for the task of matching up multiple funding sources to highly-qualified projects.

A Living Streets Framework Requires Additional Tools

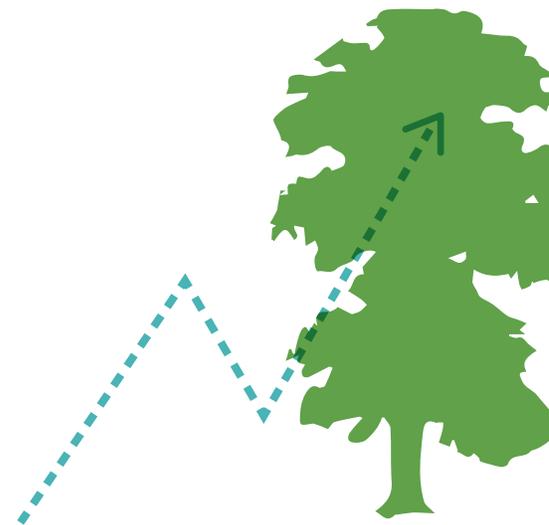
City staff and other professionals have been working for a number of years on overcoming implementation obstacles to multi-benefit projects. These City efforts should be reviewed for lessons learned, best practices and additional tools and resources needed. Some of these efforts include the following:

- Green Streets Committee
- OneWater LA Program
- Integrated Regional Water Management Planning
- Four Enhanced Watershed Management Plans
- Los Angeles River Cooperation Committee
- Urban Waters Federal Partnership
- TreePeople-led Management Advisory committee process described in their “A New Vision for Water Management in the Los Angeles Region”

Some of the additional tools or necessary steps that are needed for an effective Living Streets framework are as follows:

- A budgeting system to account for multi-benefit projects and shared costs across multiple departments.
- Updated street standards, such as for plant species allowed in parkways and other public rights-of-way to allow greater flexibility of response to hotter/drier conditions and/or ability to tolerate inundation with stormwater.

City staff and other professionals have been working for a number of years on overcoming implementation obstacles to multi-benefit projects.



Funding Living Streets

There is a misperception that multi-benefit projects are simply too expensive and complicated because they require multi-jurisdictional coordination to design and maintain. This misperception calls attention to the need for the immediate education of policy makers, staff and the public. All infrastructure represents a considerable investment in the future. In the face of climate changes that are expected to be significant, but with their details at present unknown, it is irresponsible to invest scarce public funds to meet any single goal. To return again and again to a single street to address additional project criteria or requirements is also an extremely inefficient application of public funds and other resources.

More incremental funding for Living Streets projects, as well as finding and accessing new sources of funding, is an important step that must be taken in tandem with setting up a Living Streets framework. As noted earlier, there are existing efforts related to the implementation of Complete Streets and Green Streets that could provide important opportunities for leverage. For example, the Mobility Plan (program F.5) requests the identification of the total amount of funding needed to design, construct and maintain transportation-related priority projects on an on-going basis, including existing sources of funds and the evaluation of gaps. In addition, detailed cost estimates need to be established, and funding sources identified, to implement the projects.

The Mobility Plan also indicates that it is important to establish procedures and protocols to facilitate partnerships with community groups and the private sector to provide maintenance of street investments (program F.6). Such public/private partnerships are a good interim solution. However, we should examine whether it would be more cost effective on a large scale for the public sector to provide on-going maintenance.

Increase Funding for Living Streets

We note that a major need is to increase the level and types of funding for Living Streets projects. Possible funding sources and opportunities are listed below. The lists below are not exhaustive but meant to provide a sense of the range of funding sources that are potentially available.

Existing Grant Funds:

- **Active Transportation Program:** The ATP consolidates existing federal and state transportation programs, including the Transportation Alternatives Program (TAP), Bicycle Transportation Account (BTA), and State Safe Routes to School (SR2S), into a single program with a focus to make California a national leader in active transportation. The Cycle 2 application deadline closed in June 2015, covering fiscal years 2016-17, 2017-18 and 2018-19. Cycle 3 has yet to be announced, but will likely have a deadline in mid 2018. <http://www.dot.ca.gov/hq/LocalPrograms/atp/index.html>.
- **Metro Call for Projects:** Los Angeles County Metro is responsible for allocating discretionary federal, state and local transportation funds to improve all modes of surface transportation. Every other year, Metro accepts Call for Projects applications in eight modal categories, including bicycle and pedestrian improvements. Local jurisdictions, transit operators, and other public agencies are eligible to submit applications proposing projects for funding. The 2015 applications were due on January 16, 2015.
- **California's Natural Resources Agency Environmental Enhancement & Mitigation Program:** The EEM Program was established by the Legislature in 1989 and amended in September 2013. It offers \$7 million each fiscal year for grants to state, local, federal and nonprofit organizations. Eligible projects must be directly or indirectly relate to the environmental impact of the modification of an existing transportation facility, or construction of a new transportation facility. The EEM Program encourages

projects that produce multiple benefits which reduce greenhouse gas emissions, increase water use efficiency, reduce risks from climate change impacts, and demonstrate collaboration with local, state and community entities. Grants pertaining to Living Streets would come from the Urban Forestry Projects program. Projects are to offset vehicular emissions of carbon dioxide through the planting of trees and other suitable plants. The 2014/2015 grant cycle application deadline was July 13, 2015.

- **California Climate Investments (formerly the cap-and-trade Greenhouse Gas Reduction Fund-GGRF):** The state's cap-and-trade program is one of several strategies that California uses to reduce greenhouse gas emissions that cause climate change (authorized by the California Global Warming Solutions Act of 2006 - AB 32). Funds received from the program are appropriated by the Legislature and must be used for programs that further reduce emissions of greenhouse gases. In addition, a quarter of the proceeds from the fund must also go to projects that provide a benefit to disadvantaged communities. A minimum of 10 percent of the funds must be for projects located within those communities.

Greenhouse Gas Reduction Funds are administered by many state and local agencies for a variety of greenhouse-gas cutting programs, including energy efficiency, public transit, low-carbon transportation and affordable housing. Guidelines written by the Air Resources Board (ARB) help these agencies develop programs that meet statutory requirements for reducing emissions while maximizing the benefits to disadvantaged communities.

Currently, CalFire⁶ receives and administers GGR Funds under several different urban forestry programs, including 'Green Innovations' that can fund green infrastructure projects. There is a coalition based in Los Angeles advocating that the ARB prioritize investments for green infrastructure. The coalition notes that green infrastructure projects can play a very important role in helping reduce GHGs by encouraging active transportation, while also reducing energy consumption by mitigating urban heat-islands and lowering the temperatures of our communities, especially those with the lowest tree canopy coverage.

⁶ California Dept. of Forestry and Fire Protection.

⁷ <http://www.acwa.com/spotlight/2014-water-bond>

- **Proposition 1⁷ (Assembly Bill 1471, Rendon):** authorized \$7.5 Billion in general obligation bonds for water projects, including surface and groundwater storage, ecosystem and watershed protection and restoration, and drinking water protection. The State Water Resources Control Board (State Water Board) will administer Proposition 1 funds for five programs, with the amount authorized for their Storm Water Program at \$200 million. The California Coastal Conservancy will also have grant cycles funded by Prop. 1 focused on urban greening.
- **Water Code section 79747:** identifies funds available for multi-benefit stormwater management projects which may include, but shall not be limited to, green infrastructure, rainwater and stormwater capture projects, and stormwater treatment facilities. Plans for stormwater projects must address the entire watershed and incorporate the perspectives of communities adjacent to the affected waterways, especially disadvantaged communities. Guidelines are scheduled to be adopted in December or January. Tentatively, applications are set for January 2016.

Prospective Funding Sources:

There are a number of sources that could provide an on-going source of revenue for infrastructure projects. Most would need to be approved by voters and/or initiated and approved by the city council and Mayor. Potential sources include:

1. **Stormwater Parcel Fee:** a fee charged to property owners to pay for stormwater pollution.
2. **Developer In-Lieu Fee option** for compliance with the city's Low Impact Development ordinance.
3. **A Los Angeles city bond measure for infrastructure.**
4. **Renew the city's 2004 Proposition O Water Bond.**
5. **Measure R 2.0 ballot measure:** likely to be placed on 2016 ballot to extend the LA County sales tax increase.

Lastly, it should be explored how to include Living Streets infrastructure in projects that result from the Willits settlement that include a commitment of \$1.4 billion to be used for repairing sidewalks for Americans with Disabilities Act (ADA) compliance.

Call to Action

We close with a call to action. The project team looks to the city and our colleagues working day-to-day to implement a multi-benefit approach to carry the following action steps forward.

We hope by taking action now, we can seize the opportunity to leverage separate efforts—the work of the Mobility Plan 2035, One Water LA, the Green Streets Committee, Councilmember Fuentes’ Stormwater Management Guidelines and the Mayor’s Sustainable City pLAN.

Recommended Action Steps:

- 1. Convene a Working Group:** We strongly urge the convening of a working group to identify steps for a path forward to Living Streets. Possible topics include:
 - Using a Living Streets checklist for multi-benefit projects to use as a tool to assess which goals could be met as identified in the City’s Sustainable City pLAN, Mobility Plan 2035, Enhanced Watershed Management Plans and others.
 - Creating a Living Streets framework/process to identify prospective multi-jurisdictional projects—assess how best to strengthen or continue existing multi-departmental collaborative efforts, such as: Green Streets Committee, Great Streets, Strategic Transportation Coordinating Committee, or the Department of City Planning’s Grants Committee.
 - Using technology to share different capital improvement project lists.
 - Pursuing innovations in financing and funding for public infrastructure.
 - Breaking down silos with a budgeting system to account for multi-benefit projects and cost sharing across multiple city departments.
 - Facilitating more flexible and productive partnerships and collaboration between public, NGO and private entities while not adversely affecting accountability and transparency.
- 2. Implement Phase II of Living Streets Cost and Benefits Analysis:** Build on the cost benefit analysis identified in the Living Streets Feasibility Report.
- 3. Identify an Entity to Coordinate Multi-Benefit, Inter-departmental Grant Funding Opportunities:** Under the current city process, individual departments identify funding opportunities that meet their individual department’s goals and objectives. The Bureau of Sanitation’s Financial Management Division takes the lead for that agency. The City Planning Department has a separate process to seek funding for mobility enhancement. One Water LA seeks funding opportunities for integrated water-related projects as part of the planning process. However, there remains a need for an entity to assume responsibility for taking a comprehensive approach to seeking funding opportunities.
- 4. Support Recommendations Identified in Related Projects** which recommend that a multi-agency collaborative create a collaborative approach to managing our water goals.

Partners/Authors

Principal Authors

Stephanie Taylor, Green LA Coalition
Holly Harper, Green LA Coalition

Grant Team

James Alamillo, Heal the Bay
David Fink, Climate Resolve
Holly Harper, Green LA Coalition
Meredith McCarthy, Heal the Bay
Stephanie Taylor, Green LA Coalition
Evyann Borgnis, California Coastal Conservancy

Partners

Heal the Bay is a nonprofit environmental organization making Southern California coastal waters and watersheds, including Santa Monica Bay, safe, healthy and clean. We use science, education, community action and advocacy to pursue our mission.

Green LA Coalition is a volunteer-run network of organizations and advocates working on local water issues facing the City of Los Angeles and our region. Stephanie Taylor and Holly Harper, formerly staff of Green LA Coalition, worked on this Living Streets project.

Climate Resolve is Los Angeles-based climate change organization dedicated to creating real, practical solution to meet the climate challenge while creating a better Southern California today and in the future.

The Living Streets Project includes the Living Streets Economic Feasibility Report, Living Streets: A Guide for Los Angeles, Policy Recommendations for Implementing Living Streets and Case Studies for A Model Living Streets in Boyle Heights and Heal the Bay's Literacy and Fitness Park, South L.A.

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Peer Review Team

Mark Gold, UCLA
Monobina Mukherjee, UCLA
Rebecca Drayse, LASAN, One Water Committee
Rita Kampalath, Heal the Bay
Mike Antos, CSUN
Carolyn Casavan, Casavan Consulting
Wing K. Tam P.E., City of Los Angeles

Appendix A: Creating A Living Streets Framework

A Living Streets approach requires fundamental shifts in how street projects are implemented to accommodate multi-jurisdictional and multi-benefit projects. We offer the following steps for making this shift, creating a Living Streets framework.

Step 1: Gather support by estimating the Scope & Scale of Living Streets

A suggested first step is to gather support for a Living Streets by analyzing past projects to describe a smaller subset of projects for which Living Streets improvements were technically possible or feasible. This would provide an estimated scope and scale of potential future projects. Below are suggested steps for analyzing past traditional street projects.

Analysis of past traditional street projects:

- 1) Obtain a list of all street projects for the past ten years
- 2) Filter out lower cost/smaller projects, such as projects with budgets of \$500,000 or less
- 3) Create threshold criteria for each of the Living Streets elements (see **Appendix B** for example criteria)
- 4) Map and analyze past traditional street projects, including the following data:
 - Cost of project
 - Type of project
 - Lead agency
 - Map/Overlay threshold criteria to identify projects that meet specific threshold criteria for different elements of Living Streets and/or are appropriate for a Living Streets approach
- 5) Map locations to identify the geographic distribution

Step 2: Advance Planning for Project Prioritization and Synchronization

We believe advance planning that prioritizes the most impactful projects for funding applications, requires a data-driven process that also considers geography to identify projects that can best advance livability and sustainability outcome goals set forth in the City's various plans and vision documents. In addition, advance planning is essential to improve the synchronization of timelines and budgets necessary to realize projects with multiple goals.

A comprehensive and data-driven process that considers potential impacts/targets and goals of prospective projects, while also considering location, will systematically identify the best opportunities to incorporate the maximum and best aspects of Living Streets. Mapping locations can indicate where various active projects, planned projects or the results of studies or evaluations (like failed streets) and plans (like Street Networks in the Mobility Plan) overlap in physical space.

A broad outline for this data-driven project prioritization process is as follows:

Data-Driven Project Prioritization

- 1) Develop and maintain a master database of all capital improvement projects or if this is not possible, a set of databases. Currently there are multiple strategic plans and project lists, with each City department and Council District typically maintaining their own. **Appendix C** is an inventory of Los Angeles planning documents and project lists. Several efforts also seek to facilitate comprehensive capital improvement project lists, including: One Water LA, Mobility Plan 2035 and the Green Streets Committee.
- 2) Filter the database(s) for prospective projects that are in the planning phase in order to coordinate budgets, funding

applications and work plans to allow time to raise additional funds.

- 3) **Map a filtered database to identify projects which satisfy criteria such as:**
 - Meets threshold criteria, such as minimum goals of a specific plan or funding source.
 - Best meets specific outcome targets and/or performance goals, such as increasing the tree canopy in the hottest areas of the City.
 - Project is located in low income/underserved neighborhoods/Disadvantaged Communities (DAC).
 - Is identified in the GRASS Networks plan.
 - Is identified on a Mobility Plan 2035 Street Network.
 - Is identified as a priority for EWMP implementation of water quality improvements.
 - Has the potential to meet multiple criteria or departmental goals in a cost-effective manner; e.g. has good soil and slope qualities for infiltration, has community support and is located in an area where LADWP has groundwater rights and extractive capacity.

Step 3: Implementation – Developing Projects for Funding Applications

A first step to implementation is identifying projects for funding applications. This step moves prospective projects from “wish list” to priority status, since staff time and resources are needed to submit applications.

- 1) **Assign staff to track funding and grant opportunities and coordinate applications, assuming a certain, limited total number of applications can be submitted—or existing projects can be managed to completion—in each funding cycle.**
- 2) **Use a data-driven decision tree to guide prioritization and goal setting. The data-driven results would only be used as a starting point for decisions on what projects to move forward. It is understood that other factors are likely to be considered in setting goals and implementation priorities.**
- 3) **Identify a lead agency/staff from the inter-departmental team that will facilitate the grant application completion and submittal.**

Step 4: Create Longer-Term Implementation Plan

Once a project is identified as a priority, develop a longer term implementation plan (3 to 5 years) that identifies additional improvements and potential funding sources as necessary.

- 1) **Develop guidelines/steps to determine the best and most feasible street improvement elements for a particular project. Steps could include: inter-departmental site visits, review by Green Streets Committee, GIS mapping, etc.**
- 2) **Create a project implementation plan that identifies additional improvements and potential funding sources**
- 3) **Review and update implementation plan regularly**

Step 5: Implementation-Final project development and construction

Project implementation steps in the construction phase would require a lead agency to coordinate multiple work plans in order to keep projects in sync, and to troubleshoot project delivery challenges that are exacerbated with multi-jurisdictional projects, such as those described on the following page.

Step 6: Project Evaluation & Monitoring

Identify lead staff to facilitate monitoring and tracking of project performance and identify any metrics whose outcomes directly contribute to meeting such adopted City goals as those in the Sustainability pLAN, EWMP, etc. Monitoring and regular reporting to the State is part of the EWMP process, providing a strong feedback mechanism to track progress. See **Appendix D** for list of project performance metrics useful for assessing completed projects and **Appendix E** for ones linked to specific plan compliance. To evaluate exclusively City-led plans and initiatives such tracking should be conducted on a yearly basis and compared with 2030 and 2050 goals, with periodic reviews conducted to adjust departmental practices in the light of demonstrated progress.

Project Delivery Challenges and Solutions

Challenge	Solution/New Approach
<p>Maintenance and operations responsibility in public rights-of-way is assigned along jurisdictional boundaries. Sanitation can remove sediment from catch basins and dry wells but does not have expertise to care for plant materials; Recreation and Parks only works in public parks, with Bureau of Street Services charged with trees along streets. In reality the City has a ‘hands-off’ approach that assigns landscape care to property owner.</p>	<p>Recognize that to include such elements as raingardens in streetscape projects may require additional resources. In the absence of a Business-Improvement District or such entity able to take on maintenance in perpetuity, our landscape choices remain constrained to street trees with few ground cover choices beyond turf.</p> <p>Bureau of Street Services does have a practice of contracting establishment- or ongoing maintenance for selected projects, sometimes with local non-governmental organizations or conservation corps. If new high-performance types of landscapes are to become more typical a regular program should be established, beyond the current ad hoc allocation of discretionary funds by Councilmembers.</p>
<p>Often project elements, details and timelines change from the planning phase, when community members are typically engaged, through finalization of projects and by the time implementation begins.</p>	<p>Improve City and Non-Governmental Organization collaboration: community members should continue to be engaged and updated from start to finish. This can be best done with a formalized process by which on-going collaboration is facilitated between City agencies and local, non-governmental organizational partners.</p>
<p>Recognize the pitfalls of using private contractors:</p> <ul style="list-style-type: none"> The City often turns to multiple private contractors to help streamline project delivery, with the idea that the private sector can be more efficient at delivering projects at lower cost and on more compressed timelines. This does not take into consideration the extended permitting processes and potential change orders that are frequently the result of the lowest bid contracting processes. 	<p>Any solution to bring the joint strengths of private and public project staff to bear on creating multi-benefit projects would require extensive revision of the standard practices for bidding and awarding contracts, to provide for design/build and other more flexible relationships, so that real public/private partnerships could more easily be achieved.</p>
<ul style="list-style-type: none"> Searching outside the City workforce for savings also tends to make combining multiple funding sources and construction timelines much more difficult, as contracts are tied to set delivery timelines, with significant cost overages occasioned by any change after the schedule is agreed upon. 	<p>Even if projects are constructed with 100% City workforce more interdepartmental coordination will be needed to go beyond current piecemeal implementation of single-objective projects.</p>
<ul style="list-style-type: none"> Relying upon private contractors also forfeits the ability for many agencies in the City to self-permit projects because the work is to be performed by City workforce. Self-permitting projects has the potential to save time. 	<p>It is possible to segregate the project implementation so that City workforce builds those unusual elements with extensive permit reviews and standard parts of the project are built under typical bidding and contracting processes. This does place a higher burden on timeline and construction phasing management.</p>

Appendix B: Project Prioritization Criteria and Metrics

The Project Prioritization list below contains criteria and metrics that could be used to prioritize projects. Criteria may be selected depending on the audience and not all applicable criteria would need to be applied at the same time. For example, specific prioritization criteria could be selected based on meeting funding requirements or to maximize an opportunity. Although certain City policies may necessitate adhering to base-line criteria for all certain types of projects, for example, water augmentation projects must meet water management goals.

Threshold Criteria	Metric/data point	Definition, thresholds or other info needed for informed prioritization:
Budget threshold as needed to identify the right sized project	Minimum or maximum project budget	
Base-line Criteria that must be met (select from the options below)	Metric/data point	Definition, thresholds or other info needed for informed prioritization:
<ul style="list-style-type: none"> Meets more than one objective 	Yes or No	
<ul style="list-style-type: none"> Combines water quality and water supply goals 	Yes or No	
<ul style="list-style-type: none"> Meets Water management goals 	Yes or No	
<ul style="list-style-type: none"> Water Supply Augmentation 	Total water capture in volume, in acre-feet per year	Capture or infiltrating at a minimum of 85th
<ul style="list-style-type: none"> Helps implement existing plans (EWMP, etc) 	Identify plan	See Metrics Linked to Adopted Plan Goals, Appendix E)
<ul style="list-style-type: none"> Collaboration with local partner agency. 	Organization has demonstrated history of organizing its constituents to effect positive change in their neighborhoods.	State funding programs—such as those under Strategic Growth Council purview—are increasingly prioritizing projects that demonstrate substantive, bottom-up community identification of need and participation in project-development.

Meets Targeted City Priorities in Mobility Plan, Sustainability pLAN, etc.	Metric/data point	Definition or thresholds
<ul style="list-style-type: none"> Opportunity to add trees 	<p>Pre- and post-project % canopy cover</p> <p>Energy- and costs savings due to added trees, with GHG reductions linked to energy-use</p> <p>Annual carbon sequestered, in tons of CO2 per acre</p>	<p>Canopy cover analysis, by community plan area, Council District and/or ground-truthed by site visits.</p> <p>Tree plantings part of LADWP-funded initiatives, tracked by position from bldgs. and their impacts on cooling/heating demand; in addition include impacts on temperature from trees planted away from buildings.</p> <p>Apply modeling programs such as iTree software from USDA Forest Service.</p> <p>Real-time tracking of urban trees' growth, performance and life-span.</p> <p>Accurate, triple-bottom-line accounting of the comprehensive social benefits of CO2 reduction.</p>
<ul style="list-style-type: none"> Reductions in CO2 emissions 	<p>Annual carbon sequestered, in tons of CO2 per acre</p>	<p>Apply modeling programs such as iTree software from USDA Forest Service.</p> <p>Real-time tracking of urban trees' growth, performance and life-span.</p>
<ul style="list-style-type: none"> Part of a Greenways to Rivers Arterial Stormwater System (G.R.A.S.S. network) promoting connectivity 	<p>Yes or No</p>	<p>Included in G.R.A.S.S. Plan</p>
<ul style="list-style-type: none"> Helps provide/promote new, non-motorized/active transportation circulation options 	<p>Yes or No</p>	<p>Explain or justify with narrative and/or collisions data</p>

Funding Guidelines Criteria	Meets Criteria?	Definition, thresholds or other info needed for informed prioritization
<ul style="list-style-type: none"> Criteria to match funding guidelines depending on funding source, such as: reduce greenhouse gas emissions 	Yes or No	Review specific California Climate Investments/GGRF guidelines for applicability
<ul style="list-style-type: none"> Funding is acquired or potential funding sources have been identified 	Yes or No	Identify specific sources
Green Streets		
Criteria for identifying high need streets/areas	Metric/data point	Definition, thresholds or other info needed for informed prioritization
<ul style="list-style-type: none"> Flooding/Drainage Deficiencies 	Acreage identified for flood protection relief	Analysis of flooding hazard maps, pre- and post-project.
<ul style="list-style-type: none"> Stormwater infiltration and/or capture feasibility 	<p>Total potential water capture volume, in acre-feet per year.</p> <p>Project captures or infiltrating at a minimum volume of 85th percentile storm.</p> <p>Reduction in energy costs and embedded GHG in imported water.</p>	<p>Good infiltration soil, appropriate slopes and/or existing drainage problems (soils and slopes are embedded in all estimates of potential capture volume and cost-effectiveness).</p> <p>Concept-level volume estimates, calculated from engineering plans.</p> <p>LADWP Groundwater extraction infrastructure status; complete analysis of value of any added water entering local groundwater basins for storage and eventual use.</p>
<ul style="list-style-type: none"> Water Quality Deficiencies 	Total water treatment potential volume, in acre-feet per year	<p>MS4 permit compliance, TMDLs met/not met.</p> <p>Concept-level volume estimates, calculated from engineering plans.</p> <p>Proximity to site(s) of MS4 non-compliance fines by State/Regional Boards, impaired water body and/or known/ modeled area of high-level of surface flow contamination.</p> <p>Water-Quality sampling data, both baseline and post-project.</p> <p>Transparent accounting of City's potential liability for fines.</p>

<ul style="list-style-type: none"> Disadvantaged Community 	<p>Identified by California Communities Environmental Health Screening Tool: CalEnviroScreen 2.0</p>	<p>Determine the most-impacted neighborhoods for targeted improvements.</p> <p>GHG-Reduction program targets 25% of total funding to directly benefit DACs, those communities most highly impacted by pollution.</p>
Cool Streets		
Criteria - identifying high need streets/areas	Metric/data point:	Definition, thresholds or other info needed for informed prioritization:
<ul style="list-style-type: none"> Target high heat areas for most impact 	<p>Potential reduction in urban/rural temperature differential (5.58° F in 2012), by project- or targeted area</p>	<p>ID neighborhoods with the most asphalt cover, lowest tree canopy cover, highest temperatures, and buildings with most heat evacuations (per pLAn L.A.)</p> <p>NASA MODIS data, Yale-NUIST Center on Atmospheric Environment</p>
<ul style="list-style-type: none"> Potential to reduce cooling/heating demands and associated household expenditures, targeting disadvantaged community areas (DACs) 	<p>Energy costs reduction for cool pavements, in kWh saved.</p>	<p>Impact on average household, in terms of out-of-pocket cooling/heating costs</p> <p>Modeling, such as report, Rosenfeld et al (1997)</p> <p>CalEnviroScreen 2.0</p>
<ul style="list-style-type: none"> Opportunity to add trees in areas of most severe heat island effect 	<p>Pre- and post project % canopy cover.</p> <p>Estimated cooling effect of project and its cost-effectiveness.</p>	<p>ID neighborhoods with the most asphalt cover, lowest tree canopy cover, highest temperatures, and buildings with most heat evacuations</p> <p>Associated deaths and other public health impacts due to increased temperatures and extreme-heat days.</p> <p>Modeled or site measured pre- and post project temperatures.</p>

Complete Streets		
Criteria - identifying high need streets/areas	Metric/data point:	Definition, thresholds or other info needed for informed prioritization
<ul style="list-style-type: none"> Strategize location of all capital improvement projects, to slow auto traffic and make it safer for those that bicycle and walk 	<p>Pedestrian- and cyclist-involved collisions, by community plan area.</p> <p>Traffic collisions and fatalities by mode and by mile traveled.</p>	<p>Number of collisions by severity and mode, with their locations and community plan area mapped (LAPD is engaged in compiling more detailed records than at State level).</p> <p>Collect and track collisions statistics on City-wide, per mile basis (184 traffic fatalities in 2012, 86 were involving pedestrians and 9 bicycles).</p>
<ul style="list-style-type: none"> Target capital improvements to areas that would most benefit from bicycle and pedestrian infrastructure investment – e.g. within first/last mile of high-quality and frequent public transit. 	<p>Change in vehicle miles traveled (VMT) per change in population or per capita (14.7 VMT per capita in 2012).</p> <p>GHG reduction from bicycle use and VMT reductions</p>	<p>Daily VMT estimate, conducted on annual basis.</p> <p>Comprehensive, annual pedestrian and bicyclist counts still needed for complete picture of mode-share.</p> <p>National Household Travel Survey trip-level detail available for LA Metropolitan Statistical Area.</p> <p>SCAQMD data</p>
<ul style="list-style-type: none"> To provide lower-cost transit options, target capital improvements to infrastructure for walking, biking and public transit 	<p>Transportation expenses as percentage of household income.</p>	<p>Center for Neighborhood Technology Housing & Transportation Affordability Index, CNT/Virginia Tech Report for LA Metro area.</p>
<ul style="list-style-type: none"> Align transportation investments with current travel behavior or in proportion to desired modal split 	<p>Public investment by mode.</p>	<p>Measure R, Metro Call for Projects, SCAG, etc. disbursement data.</p>
<ul style="list-style-type: none"> Jobs within a 15-minute commute by public transportation, bicycle, or walking 	<p>Yes or No</p>	
<ul style="list-style-type: none"> Convenience shopping within comfortable walking or biking distance 	<p>Yes or No</p>	
<ul style="list-style-type: none"> Useful transit within a 10-minute walk from home and/or work 	<p>Yes or No</p>	

Socially-Equitable Streets		
Criteria - identifying high need streets/areas	Metric/data point	Definition, thresholds or other info needed for informed prioritization:
<ul style="list-style-type: none"> • Collaboration with local partner agency. 	Organization has demonstrated history of organizing its constituents to effect positive change in their neighborhoods.	Baseline criteria that must be met to move project into consideration.
<ul style="list-style-type: none"> • Project identified through bottom-up, grassroots process by local community members. 	Evidence of process and of consensus on project prioritization results.	Any project for which it is proposed that design and engineering are completed before assessing community desires moves to bottom of list.
<ul style="list-style-type: none"> • Conscious efforts have been made to address potential displacement of current residents who could benefit from project. 	Evidence of an anti-displacement strategy developed, to be applied throughout design, construction and maintenance of project.	Issue must be addressed or adequate justification made for why it is not applicable in this instance.
<ul style="list-style-type: none"> • Other specific concerns identified by community have been considered, such as % local hiring requirements. 	Evidence of process and of consensus on specific project requirements results.	Issue must be addressed or adequate justification made for why it is not applicable in this instance.

Appendix C: Los Angeles Planning Documents & Project lists

Name	Lead Department	Type of Projects	Updated when and how often
Enhanced Watershed Management Programs, part of One Water L.A. program	Bureau of Sanitation (LASAN)	Regional green projects to improve water quality, reduce imported water and provide additional community benefits	Drafts submitted to State June 2015; for compliance City required to follow this plan once approved
Stormwater Capture Master Plan, part of One Water L.A. program	LADWP	Stormwater Capture projects	Draft completed in June 2015; phase 2 continues through early 2017
Capital Improvement Project (CIP) list (dept.-specific); Strategic Capital Planning Group (LADOT); Street Transit Project Oversight Committee; LADOT/BOE joint CIP working group (meets monthly, open to outside participants).	CIP lists defined by dept. with each its own lead; BPW oversees its depts.	Specific to dept.: stormwater or sewer lines for LASAN; utilities infrastructure for LADWP; transportation infrastructure by LADOT, etc.	By Fiscal Year, and/or within 5-year plans
LADWP list	LADWP	Stormwater Capture projects	\$15 million currently allocated for initial projects; yearly cycle?
Bike Plan (adopted 2011), incorporated within Mobility 2035 Plan	Dept. of City Planning (DCP)	Transportation infrastructure, including for Active Transportation	5-year implementation plan for Bike Plan; Mobility Plan approved August 2015, Implementation Plan under development

Appendix D: Project Performance Metrics

Project performance metrics are meant to measure specific outcome goals for project or a set of projects. These metrics must be applicable on a project-specific basis.

Green Streets		
Project-based Performance Goals	Metric/data points	Definition, method or data source
Flood protection relief	Acreage identified for flood protection relief	Analysis of flooding hazard maps
Capture or infiltrating at a minimum of 85th percentile storm	Total water-capture volume, in acre-feet per year	Flow estimates correlated with storm data
Water Quality - TMDLS met	Total water-treatment volume, in acre-feet per year	Water-Quality sampling data, both baseline and post-project
Energy savings due to added trees, with GHG reductions linked to energy-use	Tree plantings part of LADWP-funded initiatives, tracked by position from bldgs. and their impacts on cooling/heating demand Modeling programs such as iTree software from USDA Forest Service	Analysis of shading/cooling benefits of trees planted away from bldgs. as part of urban heat island reduction and their other public health impacts, or from those planted trees' benefits not tracked as such
Attenuation of CO2-increase driven impacts to global climate change	Annual carbon sequestered, in tons of CO2 per acre	Modeling programs such as iTree, etc.
Green/Open Space Created that captures stormwater	The number of greened acres draining to stormwater capture projects (this is also an indicator of a multi-benefit project)	
Cool Streets		
Project-based Performance Goals	Metric/data points	Definition, method or data source
Reduction in temperature in targeted area	Potential reduction in urban/rural temperature differential (5.58° F in 2012), by project-or targeted area	
Energy costs reduction due to cool pavement	Energy costs reduction for cool pavements, in kWh saved	Model estimate based on reduction in temperature X % drop in temperature equals kWh saved?

Estimated cooling effect of canopy cover	Pre- and post project % canopy cover. Estimated cooling effect of project and its cost-effectiveness.	Translated kWh usage reduction into actual cost savings.
Complete Streets		
Project-based Performance Goals	Metric/data points	Definition, method or data source
Reduction in pedestrian and cyclist involved collisions	Pedestrian- and cyclist-involved collisions, by community plan area. Traffic collisions and fatalities by mode and by mile traveled.	Number of collisions by severity and mode, with their locations and community plan area mapped. Collect and track collisions statistics on City-wide, per mile basis (184 traffic fatalities in 2012, 86 were involving pedestrians and 9 bicycles).
Increase transit and active transportation use; City to grow in size without adding vehicle trips	Change in vehicle miles traveled (VMT) per change in population or per capita (14.7 VMT per capita in 2012). GHG reduction from bicycle use and VMT reductions	Daily VMT estimate, conducted on annual basis. Comprehensive pedestrian and bicyclist counts. SCAQMD data
Equitable distribution of transportation opportunities across the population	Transportation expenses as percentage of household income.	National Household Travel Survey trip-level detail available for LA Metropolitan Statistical Area.
Increased land values coming from the effective melding of transit, land use, and design	Yes or No	
The creation of great streets, or places that people want to spend time in or live near	Yes or No	

Appendix E: Metrics Linked to Adopted Plan Goals

Metrics Linked to Adopted Plan Goals – draft to be used for a Decision Tree/Checklist for multi-benefit Projects

There are many ways in which to view metrics used to either prioritize or evaluate projects. We created this chart to filter some of the key metrics identified (Appendices B and D) through the lens of which of these can best help in meeting specific goals, as defined in plans already-adopted by Los Angeles. It is intended to serve as a resource for City staff and partner organizations, as they work to create a multi-departmental checklist, flowchart or decision tree to advance multi-benefit projects. Such a tool could guide the identification of potential projects that best match state funding priorities, as projects that implement the widest range of benefits and make the maximum impact are more competitive. Choosing to build higher-performance projects means meeting our sustainability targets more quickly.

Green Streets			
Criteria - identifying high need streets/areas	Metric/data point	Definition, thresholds or other info needed for informed prioritization	Helps meet these specific City departmental /strategic plan or other policy goals
<ul style="list-style-type: none"> Stormwater infiltration and/or capture feasibility, capacity and cost-effectiveness 	<p>Total water capture volume, in acre-feet per year.</p> <p>Project captures or infiltrating at a minimum volume of 85th percentile storm.</p> <p>Reduction in energy costs and embedded GHG in imported water.</p>	<p>Good infiltration soil, appropriate slopes and/or existing drainage problems (soils and slopes are embedded in all estimates of potential capture volume and cost-effectiveness).</p> <p>Concept-level volume estimates, calculated from engineering plans.</p> <p>LADWP Groundwater extraction infrastructure status; complete analysis of value of any added water entering local groundwater basins for storage and eventual use.</p>	<p>Sustainability pLAN L.A. (Mayor’s office): Reduce DWP’s purchases of imported water (and associated GHG emissions) by 50% by 2025, and source 50% of water locally by 2035, including 150,000 acre-feet per year of stormwater capture; by 2017 develop integrated, stakeholder-driven One Water Plan and identify funding mechanism(s) to implement the Enhanced Watershed Management Plan necessary for MS4 compliance; clean the San Fernando Groundwater Basin; expand number of green infrastructure sites and green streets (e.g. bioswales, infiltration cut-outs, permeable pavement and street trees); prioritize water system funding for local water supply development and infrastructure reliability; ensure L.A. gets its fair share of Prop. 1A Water Bond funding; seek funding linkages with other requirements such as flood control, air quality mandates, or groundwater recharge.</p> <p>Mobility 2035 Plan: Green Streets and Alleys Program (ENG.9); Green Streets Committee (MG.3); Pavement Preservation Program (MT.5); Greenways to Rivers Arterial Stormwater System (GRASS, PL.12); Maintenance Options (F.6); Strategic Capital Planning Group (D.12)</p> <p>Enhanced Watershed Master Plan (EWMP, LASAN): Increase local water supply availability and reliability.</p> <p>Stormwater Capture Master Plan (LADWP)</p>

<ul style="list-style-type: none"> Water Quality Deficiencies 	<p>Total water treatment potential volume, in acre-feet per year</p> <p>Regulatory fines due to non-compliance with water quality regulations</p>	<p>MS4 permit compliance, TMDLs met/not met</p> <p>Concept-level volume estimates, calculated from engineering plans</p> <p>Proximity to site(s) of MS4 non-compliance fines by State/Regional Boards, impaired water body and/or known/ modeled area of high-level of surface flow contamination</p> <p>Water-Quality sampling data, both baseline and post-project</p> <p>Transparent accounting of City's potential liability for fines</p>	<p>MS4 compliance (LASAN); Enhanced Watershed Master Plan (LASAN) ; Stormwater Capture Master Plan (LADWP);</p> <p>Enhanced Watershed Master Plan (EWMP, LASAN):</p> <p>Mobility 2035 Plan: Green Streets and Alleys Program (ENG.9); Green Streets Committee (MG.3); Pavement Preservation Program (MT.5); Greenways to Rivers Arterial Stormwater System (GRASS, PL.12); Maintenance Options (F.6); Strategic Capital Planning Group (D.12)</p> <p>Avoid per day, per violation site fines, \$37k each, for non-compliance with MS4 permit imposed by State Water Quality Control Board (LASAN)</p> <p>Cleaner rivers, streams and beaches for ecological health and human recreation</p>
<ul style="list-style-type: none"> Collaboration with local partner agency or community group 	<p>Organization has demonstrated history of organizing its constituents to effect positive change in their neighborhoods.</p>	<p>This is a baseline criteria that <i>should</i> be satisfied to move <i>any</i> publicly-funded infrastructure project into consideration for capital improvements investment.</p>	<p>State funding programs—such as those under Strategic Growth Council purview—are increasingly prioritizing projects that demonstrate substantive, bottom-up community identification of need and participation in project-development.</p>
<ul style="list-style-type: none"> Directly Benefits Disadvantaged Community (DAC) 	<p>Identified by California Communities Environmental Health Screening Tool: CalEnviroScreen 2.0</p>	<p>Determine the most-impacted neighborhoods for targeted improvements.</p>	<p>Sustainability pLAn L.A.: Reduce the number of census tracts in the top 10% of CalEnviroScreen (190 in 2014) by 25% in 2025, 50% in 2035; target highest-scoring census tracts for investments of cap-and-trade revenue; create opportunities for leadership development and capacity building to enable most-impacted communities to secure funding from GHG-reduction/Cap and-Trade funding.</p> <p>GHG-Reduction program targets 25% of total funding to directly benefit DACs, those communities most highly impacted by pollution.</p>
<ul style="list-style-type: none"> Opportunity to add trees 	<p>Pre- and post-project % canopy cover</p> <p>Energy- and costs savings due to added trees, with GHG reductions linked to energy-use</p> <p>Annual carbon sequestered, in tons of CO2 per acre</p>	<p>Canopy cover analysis, by community plan area, Council District and/or ground-truthed by site visits</p> <p>Tree plantings part of LADWP-funded initiatives, tracked by position from bldgs. and their impacts on cooling/heating demand; include impacts on temperature from trees planted away from buildings</p> <p>Apply modeling programs such as iTree software from USDA Forest Service.</p> <p>Real-time tracking of urban trees' growth, performance and life-span</p> <p>Accurate, triple-bottom-line accounting of the comprehensive social benefits of CO2 reduction</p>	<p>Sustainability pLAn L.A.: Complete tree and tree-canopy registry to document LA's urban forest and direct new planting to neighborhoods most in need; convene an expert council to develop soil health and "no-net-loss" biodiversity strategy for the City; develop a comprehensive climate action and adaptation plan, including an annual standardized GHG inventory (by 2017); perform analysis of long-term GHG reduction measures needed to meet 80% reduction target by 2050; reduce GHG emissions below 1990 baseline 45% by 2025, 60% by 2035 and 80% by 2050; expand number of green infrastructure sites and green streets (e.g. bioswales, infiltration cut-outs, permeable pavement and street trees);</p> <p>Mobility 2035 Plan: Tree Canopy (SF.26)</p> <p>Integrated Resource Plan (LADWP): GHG reduction targets (per pLAn L.A.)</p> <p>GHG-Reduction program funds urban forestry through CalFire</p> <p>Attenuation of CO2- increase driven impacts to global climate change</p>

<ul style="list-style-type: none"> • Flooding/ Drainage Deficiencies 		Analysis of flooding hazard maps, pre- and post-project	Sustainability pLAN L.A. : Seek funding linkages with other requirements such as flood control, air quality mandates, or groundwater recharge
Cool Streets			
Criteria - identifying high need streets/areas	Metric/data point	Definition, thresholds or other info needed for informed prioritization	Helps meet these specific City departmental /strategic plan or other policy goals
<ul style="list-style-type: none"> • Target high heat areas for most impact 	Potential reduction in urban/rural temperature differential (5.58° F in 2012), by project- or targeted area	ID neighborhoods with the most asphalt cover, lowest tree canopy cover, highest temperatures, and buildings with most heat evacuations (per pLAN L.A.) NASA MODIS data, Yale-NUIST Center on Atmospheric Environment	Sustainability pLAN L.A. : 1.7° F reduction by 2025, 3.0° F by 2035; pilot installation of cool slurry pavement and install 10,000 new cool roofs (by 2017); support Chief Resiliency Officer to comprehensively address resiliency; convene group of key technical and academic experts to integrate resiliency strategy with climate action and adaptation plan.
<ul style="list-style-type: none"> • Potential to reduce cooling/heating demands, targeting disadvantaged community areas (DACs) 	Energy costs reduction for cool pavements, in kWh saved Reduced GHG emissions	Impact on average household, in terms of out-of-pocket cooling/heating costs Modeling, such as report, Rosenfeld et al (1997) CalEnviroScreen 2.0	Sustainability pLAN L.A. : Reduce the number of census tracts in the top 10% of CalEnviroScreen by 25% in 2025, by 50% IN 2035
<ul style="list-style-type: none"> • Opportunity to add trees in areas of most severe heat island effect 	Pre- and post project % canopy cover Estimated cooling effect of project and its cost-effectiveness	D neighborhoods with the most asphalt cover, lowest tree canopy cover, highest temperatures, and buildings with most heat evacuations Associated deaths and other public health impacts due to increased temperatures and extreme-heat days Modeled or site measured pre- and post project temperatures	Sustainability pLAN L.A. : Add additional street trees and cool roofs, prioritizing neighborhoods with the most severe heat island effect; partner with government agencies and NGOs to expand the 50 <i>Parks LA Initiative</i> to obtain and transform more properties to open space in underserved communities; implement changes to Quimby Act and Finn Fee process to expand park space more quickly; access and track park acreage per 1000 residents. Mobility 2035 Plan: Tree Canopy (SF.26); Bicycle Path Landscaping (SF.3); Mitigate effects of expected tripling in number of extreme-temperature days in LA by 2050

Complete Streets			
Criteria - identifying high need streets/areas	Metric/data point	Definition, thresholds or other info needed for informed prioritization	Helps meet these specific City departmental /strategic plan or other policy goals
<ul style="list-style-type: none"> Strategize location of all capital improvement projects, to slow auto traffic and make it safer for those that bicycle and walk 	<p>Pedestrian- and cyclist-involved collisions, by community plan area</p> <p>Traffic collisions and fatalities by mode and by mile traveled.</p>	<p>Number of collisions by severity and mode, with their locations and community plan area mapped.</p> <p>Collect and track collisions statistics on City-wide, per mile basis (184 traffic fatalities in 2012, 86 were involving pedestrians and 9 bicycles)</p>	<p>Sustainability pLAn L.A.: by 2025 implement <i>Vision-Zero</i> principles on traffic safety, with goal (LADOT) to eliminate traffic fatalities for pedestrians and bicyclists; by 2017 achieve designation as an <i>Age-Friendly City</i> by the WHO's Global Network of Age-Friendly Cities and Communities; incorporation of safety for pedestrians into all street designs and redesigns; collection of consistent and uniform data to drive improvements in most dangerous locations.</p> <p>Mobility 2035 Plan: Collision Monitoring and Analysis (D.4); Crosswalk Maintenance (MT.2); Enforcement Stings (ENF.2); Roadway Safety Education (ED.7); Pavement Preservation Program (MT.5); Safe Routes to School (S.3); Speed Limit Enforcement (ENF.4); Regional Transportation Plan (PL.6); Flexible Installation Standards (ENG.7); Maintenance Options (F.6); Manual of Policies and Procedures (ENG.11); Neighborhood Traffic Calming and Slow Zones (ENG.13); Pedestrian Safety Action Plan (PL.5); Priority Grading System (F.7); Roadway Safety Campaigns (C.11); Semi-Annual Survey (D.3); Strategic Capital Planning Group (D.12); Street Lighting (SF.21);</p> <p>State Active Transportation, Highway Safety Improvement and other transit project funding programs require strategic application to areas with high frequency, severity of collisions and cost effective projects to reduce this impact</p> <p>Use safety improvement funding to target area in greatest need; reduce geographic disparities in collision incidents</p>

<ul style="list-style-type: none"> Target capital improvements to areas that would most benefit from bicycle and pedestrian infrastructure investment – e.g. within first/last mile of high-quality and frequent public transit 	<p>Change in vehicle miles traveled (VMT) per change in population or per capita (14.7 VMT per capita in 2012)</p> <p>Reduced energy consumption</p> <p>GHG reduction from bicycle, etc. use and VMT reductions</p>	<p>Daily VMT estimate, conducted on annual basis</p> <p>Comprehensive pedestrian and bicyclist counts</p> <p>National Household Travel Survey trip-level detail available for LA Metropolitan Statistical Area</p> <p>SCAQMD data</p>	<p>Sustainability pLAN L.A.: Reduce daily VMT per capita by 5% in 2025, 10% in 2035; increase percentage of all trips made by bicycling and walking to at least 35% in 2025, 50% in 2035; reduce GHG emissions below 1990 baseline 45% by 2025, 60% by 2035 and 80% by 2050.</p> <p>Mobility 2035 Plan: Site and build multi-modal, integrated <i>Mobility Hubs</i> with infrastructure for car share, shared rides and bike share (SF.13); Pavement Preservation Program (MT.5); Street Services Budget Allocation Formula (MT.8); Revised Traffic Analysis Methodology (D.10); Transit Area Parking Reductions (PK.13); Bicycle Enhanced Network (ENG.6); Neighborhood Enhanced Network (ENG.14); Annual Counts of Bicyclists and Pedestrians (D.2); Bicycle Sharing Network (SF.7); Bus Bike Racks (SF.9); Citywide Active Transportation Map (C.6); First Mile/Last Mile Transit Connectivity Program (ENG.19); Flexible Installation Standards (ENG.7); GHG Emission Tracking (D.7); Maintenance Options (F.6); Manual of Policies and Procedures (ENG.11); Neighborhood Traffic Calming and Slow Zones (ENG.13); Non-Ownership Models for Vehicle Mobility (MG.11); Priority Grading System (F.7); Semi-Annual Survey (D.3); Street Lighting (SF.21); Transit Coordination (O.11)</p> <p>Sidewalk Repair Program policy (currently under development) in response to ADA settlement</p> <p>Metro's <i>First-Mile/Last Mile</i> strategic plan</p>
<ul style="list-style-type: none"> To provide lower-cost transit options, target capital improvements to infrastructure for walking, biking and public transit 	<p>Transportation expenses as percentage of household income</p>	<p>Center for Neighborhood Technology Housing & Transportation Affordability Index, CNT/Virginia Tech Report for LA Metro area</p>	<p>Sustainability pLAN L.A.: Reduce daily VMT per capita by 5% in 2025, 10% in 2035; increase percentage of all trips made by bicycling and walking to at least 35% in 2025, 50% in 2035; reduce GHG emissions below 1990 baseline 45% by 2025, 60% by 2035 and 80% by 2050.</p> <p>Mobility 2035 Plan: Five-Year Mobility Plan Implementation Report (MG.1); update Complete Street Design Guide (ENG.12) every two years or as needed; Mobility Hubs/Multi-Modal Transit Plaza (SF.13); Transit Neighborhood Plans (PL.8); Transportation Demand Management Ordinance Revision (PL.9); Unbundled Parking Options (PK.14); Bicycle Enhanced Network (ENG.6); Neighborhood Enhanced Network (ENG.14); Transit Enhanced Network (ENG.3); Bicycle Sharing Network (SF.7); Bus Arrival Information (C.4); Bus Bike Racks (SF.9); Citywide Active Transportation Map (C.6); Maintenance Options (F.6); Manual of Policies and Procedures (ENG.11); Neighborhood Traffic Calming and Slow Zones (ENG.13); Non-Ownership Models for Vehicle Mobility (MG.11); Street Lighting (SF.21); Transit Coordination (O.11); Transit Furniture (SF.23); Wayfinding (C.13).</p> <p>More equitable distribution of transportation opportunities across the population</p>
<ul style="list-style-type: none"> Align transportation investments with current travel behavior or in proportion to desired modal split 	<p>Public investment by mode</p>	<p>Measure R, Metro Call for Projects, SCAG, etc. disbursement data</p>	<p>Mobility 2035 Plan: Bicycle Funding (F.10)</p>

Living Streets

Criteria - identifying high need streets/areas	Metric/data point	Definition, thresholds or other info needed for informed prioritization	Helps meet these specific City departmental /strategic plan or other policy goals
<ul style="list-style-type: none"> Which opportunities exist to realize truly multi-benefit and multi-jurisdictional capital improvement projects in our public streets, <i>more than one goal?</i> 	<p>Project <i>benefits</i> accrue to accounting under <i>more than two</i> City departments' mission and strategic planning</p> <p>Project <i>costs</i> accrue to accounting under more than two City departments' budgets</p> <p>Project has at <i>least one</i> local and committed, community-based organizational partner</p>	<p>Convene interdepartmental brown bag discussion groups or summit to define thresholds, provide some facilitation</p> <p>Create multi-benefit checklist to evaluate project proposals, with sections of questions specific to individual City <i>family</i> departments</p> <p>Establish process to perform the advance strategic planning essential to implementation of multi-benefit street improvements.</p> <p>Coordinate ability to develop multiple funding sources as needed, within a project-planning and delivery timeline that may extend beyond 1-5 year CIP and strategic planning by individual City departments</p>	<p>Sustainability pLAN L.A. (Mayor's office): By 2017 develop integrated, stakeholder-driven <i>One Water Plan</i> and identify funding mechanism(s) to implement the Enhanced Watershed Management Plan necessary for MS4 compliance; ensure L.A. gets its fair share of Prop. 1A Water Bond funding; seek funding linkages with other requirements such as flood control, air quality mandates, or groundwater recharge.</p> <p>Mobility 2035 Plan: Complete Street Design Guide (ENG.12); Flexible Installation Standards (ENG.7); GHG Emission Tracking (D.7); Green Streets Committee (MG.3); Greenways to Rivers Arterial Stormwater System (GRASS, PL.12); Maintenance Options (F.6); Pavement Preservation Program (MT.5); Manual of Policies and Procedures (ENG.11); Neighborhood Traffic Calming and Slow Zones (ENG.13); Priority Grading System (F.7); Revised Traffic Analysis Methodology (D.10); Strategic Capital Planning Group (D.12).</p> <p>Enhanced Watershed Master Plan (EWMP, LASAN):</p> <p>Stormwater Capture Master Plan (LADWP)</p>

