REGIONAL Parking Management Toolbox





Expect More. Experience Better.



REGIONAL **PARKING MANAGEMENT TOOLBOX**

The San Diego Association of Governments (SANDAG) created this Regional Parking Management Toolbox as a means of providing the communities, jurisdictions, and destinations within the San Diego region a framework for evaluating, implementing, managing, and maintaining parking management strategies to support community growth and stakeholder desires. This document represents the culmination of that work, providing a blueprint for community leaders to better understand the potential solutions that can best serve their parking needs and the needs of their businesses, residents, and visitors alike.

This document provides a broad set of tools to help shape the implementation of successful parking management strategies now and into the future. The document should be used to identify issues and corresponding overarching management strategies, and, to some extent, can aid communities with identifying goals, objectives, and directives of a larger parking program.

The toolbox is presented in a manner that leads the reader from defining existing problems, through choosing potential solutions, and finally providing support for the management, communication, and ongoing maintenance of program strategies and policies. The document is intended to be interactive—the **HOW TO USE SECTION** to the right will lead the reader through the proper utilization of this document.

Finally, the **RESOURCES** guide at the end of this document provides a number of tools and literature to support this document. The implementation of parking management strategies and programs is a constantly evolving practice and the reader should remain in tune with the program's effectiveness and applicability. These resources will provide the reader a conduit for understanding the changing business of parking management, as well as resources for the discussion of ideas and practices going forward.

HOW TO USE THIS DOCUMENT

The Regional Parking Management Toolbox is interactive in nature and is intended to provide the reader with a number of definitions, resources, and tools to implement parking management strategies within their local jurisdiction or service area. Areas in the document that are interactive are indicated by . The reader simply needs to click on the *(i)* to activate the interactive materials, which will provide more depth related to the subject matter. Two examples are shown below. Note: Interactive features may not be compatible with all devices. Use of a desktop computer to download or view in a web browser is recommended.

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dentifv Your Community Typology

Characterize your community or portions of your community to help address issues with spatially appropriate strategies.

STEP

Review the

For each overarching strategy, understand parking management solutions, their impacts, and where they are most applicable.

Evaluate Parking rogram Or

Learn how successful implementation of parking management strategies depends on ongoing programmatic management.

This document is also organized chronologically, allowing the reader to work through a series of deliberate steps on the way to identifying context-sensitive parking management strategies. The steps include:



Learn about common issues faced by parking programs, including overarching problems and the subsequent issues they create. Learn how to collect and analyze data to identify these common issues.

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Understand overarching management strategies intended to help mitigate these issues.

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Evaluate communication strategies that are critical in the implementation of parking management strategies.

STEP

WHO SHOULD USE THIS DOCUMENT?

The *Regional Parking Management Toolbox* uses a distinct group of typologies to help understand the impacts of parking management strategies for different community types. Understanding the typologies is the first step in using this Toolbox. Each of these typologies experience unique parking related issues which require unique mitigation strategies. Throughout this document, issues, strategies, and programmatic components are defined by which of these typologies are most impacted.

It is important to note that the communities within the greater San Diego region are unique and often encompass more than one typology. Likewise, a single strategy can sometimes be successfully employed across multiple typographies. Therefore, it is important for the reader to not only explore the strategies associated with their primary typology, but also other strategies which might complement or strengthen the primary management approaches in their area. This is especially true as communities build parking management programs around these strategies. As time passes and the programs become more effective, it may prove useful to expand the implementation of strategies to meet new challenges or opportunities related to the program.

TYPOLOGIES





UNDERSTAND

The Parking System

Understanding the parking system is complex. There are a number of components that work in concert that, if managed properly, can create a cohesive and successful parking system. However, the task of understanding the parking system can be daunting when it is unclear where or how to begin. Good parking management is dependent upon solid parking data, data interpretation, and preliminary decision making. The purpose of this section is to break down different types of data collection methods and the purpose for collecting such data.

It is important to understand that it is not always necessary to collect data on every detail of the parking system. The type of data collected depends on what one hopes to get out of it. So before conducting field data collection, it is first important to understand two aspects of the community:

- WHAT ARE YOUR PARKING GOALS this may tie directly to goals stated in a plan (e.g. a comprehensive plan, transportation plan, specific plan, or parking plan). Determining the parking goals first focuses the rest of the process.
- KNOWLEDGE OF THE COMMUNITY CHARACTERISTICS what issues are occurring in the community and what strategies would be most appropriate.

Understanding the above information can lead to identifying what you want to accomplish by conducting parking data collection.

WHAT TO COLLECT

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WHAT TO DO WITH YOUR DATA? Analyzing the Data

Now that data has been collected, the next step is to analyze the data to identify potential problems and understand the capabilities of the parking system.

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HOW DO YOU KNOW A PROBLEM EXISTS?

Interpreting the Data

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Day 1 Faculty Parking Occupancy Day 1 Commuter Parking Occupancy Day 1 Resident Parking Occupancy Day 2 Faculty Parking Occupancy Day 2 Commuter Parking Occupancy Day 2 Resident Parking Occupancy

What To Do Now?

Once the data has been analyzed and it is understood what problems may exist within the community, appropriate solutions can be reviewed, discussed, piloted, and implemented in order to balance the parking system.

• Now that you have identified the problem, it's time to tailor a solution to fit the needs of the users and community while aiming to mitigate the problem. The first step is to review the list of common issues on the following pages of this document and begin to relate them to specific parking management strategies. Many times, small changes to policy or management can have a large impact on the perception of a parking problem.



- Many parking programs are taking an iterative approach to parking management, using pilot studies to try out new strategies or technologies before making a large scale investment. This can be a good way to involve the community in the decision making process, using user feedback to evaluate successful implementation of projects.
- Communication is key. Once you have a better understanding of the data and the problem, it's good to inform the community about the findings to help educate and shift poor perceptions of parking.

In the following pages of this document, common issues facing parking management agencies are presented along with potential strategies that can be implemented to mitigate the issues.

PREVAILING ISSUES FACED BY COMMUNITY PARKING PROGRAMS

Over time, the characteristics of a community evolve with changes in size, population, density, development, and transportation patterns. These changes have a substantial influence on the characteristics of a community's parking needs. As a result, new challenges in the parking system will emerge, which will require the parking program to adapt. The nature of parking problems will vary on a community-by-community basis, but there are a number of common issues that consistently emerge in the evolution of a parking program.

PREVAILING ISSUE

Provision of Parking

Providing parking is often one of the bigger obstacles faced by communities. It is usually not feasible to construct new parking to meet parking demands due to funding, space, political, or public challenges. However, an appropriate amount of parking, respective to the needs of the community, is a key component to supporting businesses, residents, and visitors by providing access to destinations.

Use of Parking

Communities can make the most of their parking supply by ensuring that it is used properly to meet the needs of the surrounding destinations. If the use of parking is not being managed properly, it can result in restricted access to businesses and increased public frustration.

Parking Impacts

Parking can significantly impact a community in a number of ways. Parking is a means of providing access to destinations within a community and if that access is diminished, businesses and residents are affected. Additionally, parking is tied closely to the growth and economic development potential of a community. As such, minimizing negative impacts helps to support a thriving community.

Parking Demand

Communities often face the challenge of either having too much parking or not enough. Demands can be higher in some areas and lower in others. Areas where there is not enough parking can lead to conflicts between residents and businesses and create a negative image of the parking system. Areas with too much parking result in valuable space that is underutilized.

Cultural Changes

Communities over time will face challenges as the characteristics of their population change. Changes with the community character often mean a shift in parking needs or how parking needs are met. This can be a significant change for some communities as they start to address new issues and meet new challenges that were not necessarily concerns previously.

Technology

Technology plays a critical role in improving the parking experience for all users as well as improving the management of the parking system. Outdated technology can limit the capabilities of the parking system (e.g. inefficient enforcement and maintenance practices, lack of parking data, etc.). Additionally, outdated technology may not align with the needs of the community. For instance, people do not always carry coins on them anymore, and coin meters can deter some parkers from visiting a community. Additionally, too much technology or not the right technology for a community can also become an issue. Using all of the latest technology can become overwhelming and/or confusing for users, and won't necessarily improve parking management. Technology should be a tool that is appropriate for the community and helps manage the parking system.

Provision

of Parking

Parking Demand

Use of Parking

Parking

Impacts

Cultural

Changes

Technology

Explore the different issues faced by parking programs by clicking on the Prevailing Issue topic in the table below. As you click on an issue topic, a more in-depth discussion on sub-issues that correspond with the issue topic will appear in the box below. While these sub-issues are not likely the only issues a community might face, they are common amongst the typologies included in this toolbox. Typologies that are most likely to face these issues are noted under each issue discussion.

Parking Management Strategies

Parking needs, characteristics, and resources can vary greatly between different communities, agencies, and institutions. However, there are a number of common parking management strategies that, if implemented appropriately for that community, agency, or institution, can be of great benefit for that parking program. These common strategies are shown to the right.

They can be implemented individually or together, depending on the needs of the community and the characteristics and goals of the parking program.

Each of these nine strategies is discussed in greater detail in this document.

Scroll over the Strategy titles to the right to reveal a brief overview description of the strategy.

Click on the Strategy titles to be taken directly to that section for a more in-depth discussion on that strategy.



Common Parking Management Strategies

Balancing Competing Users

Most parking programs serve an evolving group of users that could include residents, employees, businesses, service providers, event goers, tourists, or government uses. To accommodate these users, parking program managers must implement a variety of policies that complement one another. This is best exemplified at the street curb, where curb lanes are utilized by several groups of users, where each has various parking needs that relates to conducting activity at the curb.



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Enforcement and Regulation

Effective enforcement of parking regulations is essential to reaching compliance and efficiency in your parking system. Enforcement often carries a negative connotation, but when performed properly it can be an invisible component of your program that improves turnover, manages demand, deters habitual or repeat offenders, and improves the efficiency of your entire program. Proper enforcement should be focused on education and promoting a change in behavior, rather than the generation of additional revenues for the parking program.



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Parking Demand Management

Parking demand management strategies are focused on meeting and mitigating parking demands to promote balance and efficiency within the parking system. These include a variety of strategies rooted in the provision of parking, coordination of parking with transit and other non-vehicular modes, use of technology to balance demands, and regulations that focus on minimizing parking demands.



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1 Litman (2005) Parking Management Best Practices

2 Litman (2005) Parking Management Best Practices and Victoria Transport Policy Institute (2013) Strategies for More Efficient Use of Parking Resources

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4 Litman (2005) Parking Management Best Practices



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Managing Parking Supply Effectively

Often times, the first step in combating a perceived parking deficit is to manage existing parking supply more effectively. This could include improved wayfinding, better dissemination of information about available parking, initiating shared parking with private supply, or allocating existing spaces differently. Throughout the life of a parking program, demands, supplies, and perceived deficits will ebb and flow with the changing dynamic of the surrounding community. It is vitally important to effectively manage the program's existing parking assets to minimize unnecessary investment.



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PARKING SYSTEM CHALLENGES

5 Litman (2005) Parking Management Best Practices

6 Litman (2005) Parking Management Best Practices



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Creating New Parking Supply

When parking demand exceeds parking supply (occupancy rates are consistently higher than 90% after a comprehensive parking management program has been implemented), the creation of new parking may be a necessity. Creating new parking supply could range from reconfiguring or repurposing existing assets to the creation of new parking resources. Constructing new parking should be a last resort as it is a major investment that often does not pay for itself without intensive parking management and rate collection.



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7 Litman (2005) Parking Management Best Practices

8 Litman (2005) Parking Management Best Practices



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Implementing and Managing **Paid Parking**

Implementing or expanding paid parking is often the most difficult parking management strategy, because it is perceived negatively by users. However, when high demands, low turnover, and general poor parking conditions plague a program, it is often the best option to change behaviors and manage parking supply. Implementing paid parking should be done with the correct technology to support payment; stakeholder outreach to build consensus; programmatic support to manage paid parking; and marketing to educate consumers. Paid parking shouldn't be implemented primarily to generate revenues-this is almost a guaranteed way to ensure failure and backlash. Additionally, paid parking can be implemented once other non-pricing strategies have been explored and possibly implemented in an effort to balance parking demands.







Rates Hours Program

Transportation Demand Management **Strategies**

There are many Transportation Demand Management (TDM) strategies that can be implemented to reduce the demand for parking by promoting alternative forms of travel for both commute and non-commute trips. Many communities have found that implementing these strategies has not only reduced parking demands but has led to other community benefits as well. The TDM toolkit related to parking is a mixture of alternative transportation provisions, improvements to non-vehicular networks, and commuter-based incentives designed to reduce demand.



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9 Litman (2005) Parking Management Best Practices 10 Litman (2005) Parking Management Best Practices

11 Victoria Transport Policy Institute (2013) Strategies for More Efficient Use of Parking Resources

12 Winters and Rudge, 1995



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Unbundled Parking

Sustainable Parking **Strategies**

Many cities are focused on reducing impacts to the environment by reducing the impact of parking (e.g. large lots that increase runoff and heat island effects) vehicle trips and encouraging the use of more environmentally friendly vehicles. This includes providing incentives for non-single occupancy vehicle travel or electric vehicle usage and setting policy that encourages less driving and a less drastic impact to the environment from the parking system. In recent years, the Green Parking Council (an affiliate of the International Parking Institute) was formed to promote sustainable practices in parking, including documenting sustainability guidelines.



14 Litman (2005) Parking Management Best Practices



Communication and **Involvement Strategies**

Communication and involvement with the public and stakeholders regarding planning and implementation of parking strategies is often critical in the success of a program. Those who should be involved in the process may vary depending on the type, location, and expanse of the project. Typically, residential community, business community, jurisdictional representatives and elected officials, and general users should be included in the process. Involving these people early and often as part of the development and implementation process of parking policies and strategies is instrumental in garnering support and understand of the program, which leads to a more successful program. Additionally, communicating changes, such as parking locations, prices, and regulations to the public helps to strengthen motorists' understanding of the parking system, improving parking efficiency and customer experience. There are multiple strategies used to involve and disseminate parking information to the public, and when used in concert, they create a multifaceted approach that can reach a wide range of motorists.

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Case Study

CASE STUDIES

BALANCING COMPETING USERS

- Charlotte, NC
- Austin, TX
- Minneapolis, MN
- Tempe, AZ
- Seattle, WA

ENFORCEMENT AND REGULATION

- Tempe, AZ
- Toronto, Ontario, Canada
- Fort Collins, CO
- Austin, TX
- Lincoln, NE

PARKING DEMAND MANAGEMENT

- Dallas Cowboys Stadium/Arlington Entertainment District
- Fort Collins, CO
- Austin, TX
- King County Metro Transit, WA

MANAGING PARKING SUPPLY EFFECTIVELY

- Lincoln, NE
- Santa Monica, CA
- Minneapolis, MN
- Norfolk, VA
- San Jose, CA

CREATING NEW PARKING SUPPLY

- Long Beach, CA
- King County Metro Transit, WA

IMPLEMENTING AND MANAGING PAID PARKING

• Santa Monica, CA

- Seattle, WA
- Houston, TX
- Washington, DC

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

- University of Washington, Seattle, WA
- Santa Monica, CA
- Minneapolis, MN

SUSTAINABLE PARKING STRATEGIES

• San Jose, CA

COMMUNICATION STRATEGIES

- Fort Collins, CO
- Toronto, Ontario, Canada

DEFINING A PARKING PROGRAM

Implementing the previous parking management strategies will be limited by the effectiveness of the program that manages and maintains them. There is no one-size-fits-all approach to management because of each community's unique characteristics and goals. However, there are overarching components of a parking system that, if implemented in a manner appropriate for that community, can greatly improve the parking system and the user experience. Communities face similar challenges relating to politics, community diversity, staff training, technology, organizational structure, and financing. How each of these challenges is addressed through the structure and organization of the parking program will be as unique as the community itself. The elements below provide a glimpse into the components involved in building a parking program.

COMMUNICATING EFFECTIVELY

Successful implementation of parking initiatives often requires community acceptance of new regulations and/or behavior changes by individuals who park in a given area. Community members are typically slow to accept strategies to address parking issues, and building support often requires developing credibility and trust within a community before implementation can begin. Effective communications strategies are required to help community members understand and embrace new regulations, and change behavior in order to make new strategies successful. Recognizing community attachment to free and low-cost parking is a critical step in communicating potential solutions. All strategies must be presented in a positive light in order for the public to not see solutions as a "loss" of an existing right. Demonstrating both the "give" and the "get" with each parking strategy will help community members fairly evaluate how changes in regulations or practices impact their daily lives.

INFORMATION AND EDUCATION

A. PRESENTATIONS TO COMMUNITY AND BUSINESS GROUPS – Presentations allow the agency to reach a variety of audiences and provide an opportunity for groups to give feedback.

- B. PRINT COLLATERAL Written materials such as brochures, fact sheets, maps, etc. can be developed to provide information about new programs, locations, answers to frequently asked questions, etc.
- C. **WEBSITES** A website serves as the "hub" for all project information. The website should be designed to be user-friendly, informative, and interactive.

D. E-NEWSLETTERS/E-BLASTS

- E-newsletters and e-blasts allow for the rapid distribution of news, updates, and alerts rather than general project information. These should be eye-catching, with the most important information prominently highlighted.

- E. **VIDEOS** Brief, fun, and informative videos can be featured on the website, used in presentations, posted on social media, and included in e-mail communication.
- F. SOCIAL MEDIA Social media provides an opportunity to share information, videos, infographics, etc. in a low-cost manner. It can be integrated with website and e-mail programs.
- G. EXPERT PANELS Expert panels can be a useful tool to educate the public on parking issues, why innovative parking management is needed, the effectiveness and application of various parking strategies, and lessons learned.

H. PARKING AMBASSADOR - A

Parking Ambassador may serve as an ombudsman and spokesperson for the agency, providing a single point of contact for the public to get information about the new programs.

 MEDIA RELATIONS – Media relations can communicate information about changes in parking management and associated benefits. Relations should start early, when the agency is working with the public to develop a plan to address issues and continue through implementation.

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PUBLIC OUTREACH

- A. PARKING ADVISORY BOARD A Parking Advisory Board provides an opportunity for the agency to engage key stakeholders that would be affected by parking changes on an ongoing basis.
- B. FOCUS GROUPS Focus groups are helpful in providing thoughts about various options being considered, as well as methods of communicating with the public.
- C. **SURVEYS** Surveys are useful tools for gaining information from a broader audience both prior to and after implementation of parking programs.
- D. PUBLIC WORKSHOPS Public workshops engage interested stakeholders to provide input and/or help develop proposed solutions prior to implementation, and also provide feedback about the programs once they have been implemented.

E. PILOT PROGRAMS - Pilot

programs implement a project in a small area to test a technology and/or policy. It may be challenging to educate the public on parking program changes associated with the pilot.

F. **ONE-ON-ONE OUTREACH** – This involves sending a "street team" out to conduct short surveys or interviews with stakeholders to obtain the feedback and convey the information needed.

G. PARTNERSHIPS WITH COMMUNITY-BASED ORGANIZATIONS (CBO) - To

reach some segments of the public, it can be helpful to develop outreach partnerships with CBOs.

H. COMMUNICATING WITH AGENCIES AND ELECTED OFFICIALS – Communicating

strategies and policies with elected officials is often the most critical step in achieving successful implementation.

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MARKETING / ADVERTISING

- A. DIRECT MAIL Direct mail provides printed information directly to each residence in the targeted area. It can effectively deliver messages and information about the programs.
- B. PAID ADVERTISING Advertising in newspapers, on radio and TV, outdoor/billboards, and online will reach a broad and diverse audience. It can be developed as part of a campaign so that the ads complement and build upon one another.
- C. **SIGNAGE** Well-designed signage will help to direct the public as they encounter changes in parking, which can help ease frustrations that may occur with change.
- D. INCENTIVES Providing incentives to change behavior can be useful. Potential incentives could include free parking for a set number of hours, discounts at local businesses with a parking ticket, or a giveaway when parking during a specified time period.

E. **BUSINESS CARDS** – Business cards are a simple form of collateral that can be easily distributed and made available for others to distribute. The cards would provide topline information and direct people to the website for more details.

RESOURCES

Parking Management Resources

The following resources represent a compiled reading list for new parking professionals and programs. Some of these are dedicated resource manuals, while others are linked information from the internet. The reader should explore these resources as they work through the implementation, maintenance, and management of parking strategies.

- Parking 101, A Parking Primer International Parking Institute Fredericksburg, VA, 2002
- Parking 102, Parking Management The Next Level International Parking Institute Fredericksburg, VA, 2004
- Parking Robert A. Weant and Herbert S. Levinson, Copyright Eno Foundation for Transportation, Washington, DC, 1990
- Parking Structures, Planning Design, Construction, Maintenance and Repair Anthony Chrest, Mary S. Smith, Sam Bhuvan, Kluwer Academic Publishers, Third Edition, Boston, MA, 2001
- The Dimensions of Parking Various Authors, Copyright The Urban Land Institute and National Parking Association, Fourth Edition, Washington, DC, 2000
- The Parking Handbook for Small Communities National Trust for Historic Preservation / Institute of Transportation Engineers, Washington, DC, 1994
- Shared Parking, Second Edition Study coordinated by the ULI, Copyright The Urban Land Institute, Mary S. Smith, Washington, DC, 2005
- The High Cost of Free Parking Donald Shoup, American Planning Association, Planners Press, Chicago, 2005
- Parking Reform Made Easy Richard W. Willson Island Press, Washington DC, 2013
- Victoria Transport Policy Institute TDM Encyclopedia
- International Parking Institute Home Page

Transit & Parking Resources

- Capitol Hill Transit Oriented Development, Coordinated Development Plan (May 2013)
- Capitol Region Council of Governments Best Practices Manual, Transit Oriented Development (March 2002)
- Los Angeles County Metropolitan Planning Authority – Metro – First Last Mile Strategic Plan & Planning Guidelines (March 2014)
- MARTA Transit-Oriented Development Guidelines (November 2010)
- National Center for Mobility Management, Making First/Last Mile Connections to Transit (2013)
- Perceptions of Bicycle-Friendly Policy Impacts on Accessibility to Transit Services: The First and Last Mile Bridge (January 2014)

Case Study Participants

Austin, Texas

Charlotte, North Carolina Dallas Cowboys Stadium, Arlington, Texas

Fort Collins, Colorado

Halifax, Nova Scotia, Canada

- Houston, Texas
- Houston Metro Transit

- SANDAG First and Last Mile Solutions for Transit Centers (October 2011)
- Smarter Parking at Transit Stations (Fall 2007)
- Sound Transit Parking Pricing Study (June 2010)
- TCRP Report 153, Guidelines for Providing Access to Public Transportation Stations (2012)
- Transit Agency Parking Pricing and Management Practices: Peer Review (May 2010)
- Transit Station Area Development Guidelines
- Transit's Enemy: Cheap Parking (May 2011)

- King County Metro Transit Lincoln, Nebraska
- Long Beach, California
- Minneapolis, Minnesota
- Norfolk, Virginia
- San Jose. California
- Santa Monica, California
- Seattle, Washington
- Sound Transit Tempe, Arizona Toronto, Ontario, Canada University of Washington Valley Transportation Authority Washington, D.C. Washington Metropolitan Area **Transit Authority**