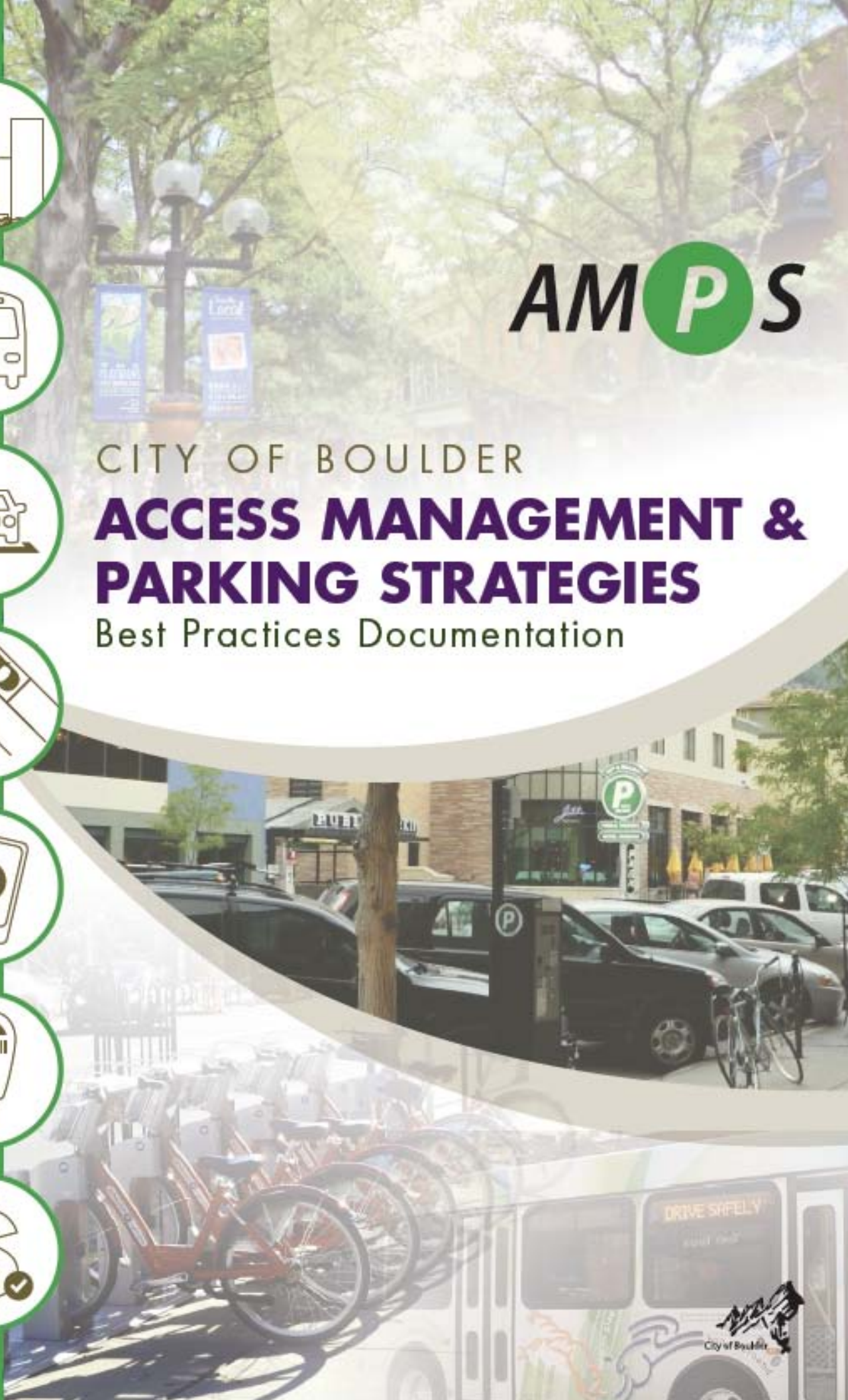
AMPS

CITY OF BOULDER

ACCESS MANAGEMENT & PARKING STRATEGIES

Best Practices Documentation



Boulder Access Management and Parking Strategies

Project Overview and Best Practices Research

Access Management & Parking Strategies

AMPS

Introduction to AMPS

Access Management and Parking Strategy

WHAT IS AMPS?

The Access Management and Parking Strategy (AMPS) will update current access and parking management policies and programs and develop a new, citywide strategy to align with city's sustainability goals.

The City of Boulder's parking management system has a long history. Parking meters were first installed on Pearl Street in 1946. Over the past decades, Boulder's parking system has evolved into a nationally recognized, district-based, multi-modal access system (autos, transit, bicycling and pedestrians) along with parking in order to meet city goals, support the viability of the city's historic commercial centers and maintain the livability of its neighborhoods.

The goal of AMPS is to evolve and continuously improve Boulder's citywide access and parking management strategies and programs tailored to address the unique character and needs of the different parts of the city.

WHAT ARE THE ISSUES?

Although the city of Boulder is a national leader when it comes to parking and access management, more work is needed to create a state of the art system that addresses new challenges:

- Boulder has one of the highest bike and transit use rates in the country, but more work is needed to meet our sustainability objectives and climate commitments
- Current regulations are out of date with respect to how much parking should be provided on certain sites considering the growing shift in travel behavior (more bike, transit and walking trips)
- While managing transportation demand has proven effective for private development, the city lacks the ability to enforce requirements
- The trend in lower car ownership among younger generations is causing the city to rethink future access and parking needs
- The need to create a parking and multimodal access system that works in both north Boulder and south Boulder
- Providing parking and multimodal access that works well for older adults, millennials, and everyone in between

WHAT IS THE GOAL OF AMPS?

Goal

Develop tools and strategies to evolve Boulder's access and parking management to a state of the art system reflecting the city's sustainability goals.

Another key goal of the AMPS project is to align parking and access management philosophies and programs with larger Citywide policies, goals and adopted plans.

Guiding Principles

The following AMPS project "Guiding Principles" provides a set of criteria that will be used to both guide the project in terms of overarching goals as well as to assess the relevance and appropriateness of specific best practices that will be evaluated and refined as tools to advance the City of Boulder's parking and access management programs.

- **Provide for All Transportation Modes and Safety**: Support a balance of all modes of access for a safe transportation system: pedestrian, bicycle, transit, and multiple forms of motorized vehicles—with the pedestrian at the center.
- **Customize Tools by Area:** Use of a toolbox with a variety of programs, policies, and initiatives customized for the unique needs and character of the city's diverse neighborhoods both residential and commercial.
- **Support a Diversity of People:** Address the transportation needs of different people at all ages and stages of life and with different levels of mobility – residents, employees, employers, seniors, business owners, students and visitors.
- **Seek Solutions with Co-Benefits:** Find common ground and seek mutually supportive outcomes among community character, economic vitality, and community well-being with elegant solutions—those that achieve multiple objectives and have co-benefits.
- **Plan for the Present and Future:** While focusing on today's needs, develop solutions that address future demographic, economic, travel, and community design needs. Align with the city's Master Plans, including the updated Transportation Master Plan, as well as the city's Climate Commitment and Sustainability Framework.
- **Cultivate Partnerships:** Be open to collaboration and public and private partnerships to achieve desired outcomes.

WHAT IS THE FOCUS OF THE AMPS PROJECT?

To address the above challenges, AMPS will focus on the following seven "Focus Areas". Each focus area below is followed by a list of key topics to be explored within the focus areas. Some focus area tasks have some overlap with related areas. A more detailed description of these key topics or issues is provided in Appendix A.

1. **District Management**
   A. This focus area explores the future of existing access and parking districts (downtown, Boulder Junction, University Hill) as well as considering the formation of new districts.
   B. Key Topics/Issues:
      - Partnerships with private parking providers
      - Integration Between Districts
      - IPI's Parking Program Accreditation Initiative and the Green Parking Council's Garage Certification Program
      - Consideration of how access districts could evolve to integrate with other types of districts: Eco Districts, Arts, Innovation etc.
      - District Development Projections
      - Parking/Access Demand Planning Software
      - Creation of New Districts
      - Car Share/Pool/Electric Charging Strategies to Support Access Districts
      - Public Private Partnerships
2. **On and Off-Street Parking**
   A. Investigates uses of public rights-of-way (e.g. Car-share parking, E-vehicle parking, neighborhood permit parking and the repurposing of parking spaces for uses such as bike parking or "Parklets"). Off-street parking (all surface lots and parking garages that are owned and managed by the districts) is also part of the discussion.
   B. Key Topics/Issues: - On-Street Parking
      - 72 Hour Parking Limitation
      - Back-In Angled Parking to Facilitate Bike Traffic
      - Protected Bike Lanes, Swapping Bike Land with Parking Areas
      - Loading Zone Management
      - Disabled Parking Designation and Location
      - Use of Time Zones as a Management Tool
      - Neighborhood Parking Permit Programs (NPP)
      - On-Street Car Share
      - Edge Parking
      - City Employee Parking
      - Parklets

   C. Key Topics/Issues: - Off-Street Parking
      - Variable Messaging Signage / Parking Guidance Systems
      - Replacement of the Parking Access and Revenue Control (Gate Access System) in the Public Garages
      - Incorporation of Public Art

- Electric Vehicle Charging Stations

3. **Transportation Demand Management (TDM)**

   A. Explores existing programs that reduce single occupant vehicle trips, including travel by transit, bikes, walking and car and van pool programs and new practices that could be adopted in Boulder.

   B. Key Topics/Issues:
      - Impact of RTD Smart Card on Pricing
      - Last Mile Options – Car and Bike Share
      - Multi-modal Access Card for Transit, Parking and Share Programs
      - Enhanced Pedestrian Amenities
      - Expanded Bike Parking Options
      - Bike Corrals
      - Implementation of Boulder Junction Access District (BJAD) TDM District
      - Community-Wide EcoPass
      - Parking Cash Out
      - Alternative Work Schedules
      - Car Pools/Van Pools

4. **Technology and Innovation**

   A. Assesses parking access equipment (garages) for both internal systems (permitting, products, and reporting) and customer-focused technology to make parking more convenient and reduces the time needed to park.

   B. Key Topics/Issues:

      - Integration of Existing Five Technology Systems
      - Consideration of New Technologies

5. **Code Requirements**

   A. Identifies code improvements for parking requirements citywide (e.g. updating parking requirements for specific uses and updating the code to meet ADA requirements). Longer term code changes will respond to recent changes in travel behavior (e.g. increased bicycling and transit use) with new polices related to shared and unbundled parking.

   B. Key Topics/Issues:

      - Update off-street parking standards for standard, small car, and accessible parking stalls to create less complicated parking requirements that meet, but do not exceed, the parking needs of restaurants/taverns, warehouses, and industrial uses . Also, update RH-1 parking requirements to match that of RH-2 zoning districts.
      - Assess whether private property parking requirements should be by use instead of zone district.
      - Consider automatic parking reductions in addition or in lieu of current parking reduction process.
      - Consider Parking Maximums
      - Bike Parking Standards for New Development
      - Reassess compact parking requirements and consider whether tandem spaces should count as parking in certain scenarios.

- Allow Parking Spaces for Car Share/Pool/Electric to be Included in Parking Totals.
- Create Regulations for Shared Parking with Cross Access Between or Within Development Sites.
- Create Area Specific Requirements (not just zoning specific)(i.e. Student residential areas east of 28th)
- Assess other strategies to reduce superfluous parking supply or potentially not require minimum amount of parking on site, including but not limited to unbundling parking and additional on-street permit or metered parking.

6. **Enforcement**

   A. Balances parking access and management through education, customer service and regulation in an effort to better serve those who live, work and visit the City of Boulder.
   B. Key Topics/Issues:

      - Title 9 Parking Enforcement Responsibility
      - Expansion of LPR Enforcement
      - Parking Ticket Fine Amounts in Relation to Parking Pricing
      - Explore Graduated Parking Fines
      - Develop an enhanced Parking Enforcement Operations and Training Manual
      - Develop a parking enforcement program audit process

7. **Parking Pricing**

   A. Analyzes parking pricing and enforcement fees (including variable and performance based pricing and graduated fines).
   B. Key Topics/Issues:

      - Parking Management through Pricing
      - Pricing Considerations
      - Cost of NPP Permits
      - Variable or Performance-Based Pricing Options
      - Parking Fine Amounts

AMPS PROJECT OVERVIEW – SUMMARY OF PROGRESS TO DATE

Project Progress Summary

Overall Project Goals

The City of Boulder (City) has contracted with Kimley-Horn and Associates, Inc. (Kimley-Horn) and their sub-consultant partners, to assist in developing an integrated Access Management and Parking Strategy (AMPS).

To accomplish this goal, the City and Kimley-Horn team will complete a multi – phased approach.

- Phase One will complete specific early action items, conduct best practice research activities to complete scoping in other technical areas, initiate a public process, and develop an overall framework to provide an integrated final deliverable.
- To meet City needs in synchronizing deliverables with other planning and approval processes, early action items will complete specific tasks and deliverables. This Phase will also include best practice research tasks in areas where the final scope of strategy development is dependent upon the identification of best practices. Based on the research and deliverables completed in this phase, the scope of phase two will be more clearly defined.
- Phase Two will initiate as the scoping aspects of Phase One are completed and more detailed scopes of work developed by Focus areas. Phase Two will generally focus on policy development and implementation strategies.

City staff has done a tremendous amount of advance work to aid in the development of a comprehensive and integrated approach format to better define the scope and goals of this project. This work includes the development of a set of project “guiding principles”, a project format based on seven key “focus areas”, detailed matrices by focus area defining key programs/policies, task descriptions, issues, priorities, etc.

Editorial Note:

Based on staff review comments, additional work is proceeding to better document program results and performance metrics. Many good examples have been found and will be incorporated into the final report. The development of specific performance measures and success metrics will be developed for each strategy that the City prioritizes as part of Phase Two of the project.

The diagram below summarizes the overall project approach:

These objectives are completed through the following work plan. The work plan is organized by the eight Focus areas (seven AMPS focus areas plus a focus area related to communications and plan integration).

While the project is still in its early phases, several priority areas have been addressed, including:

1. Develop TDM Toolkit

One of the early priorities of the AMPS project was the task of exploring opportunities to improve the city's existing Developer TDM Toolkit, which encourages developers to implement TDM programs. Currently, developer participation in TDM can be either voluntary or mandatory, leading to some inconsistencies. Additionally, the current TDM toolkit allows developers to select TDM strategies from a list of options. It has been found that the combination of strategies selected by developers is often not ideal for maximizing synergies among strategies and reducing vehicle trips. Other issues associated with the toolkit include:

- How to provide long-term funding for the implementation of TDM strategies
- Identification of an ideal time period for which developers should be required to implement and fund TDM strategies
- How to address changes in property ownership, if at all
- Identification of new options for the implementation of developer-based TDM programs, such as the utilization of TMAs
- Identification of new TDM strategies that should be added to the toolkit, such as bike share and car share
- How requirements should vary by development type and location, if at all
- How best to enforce compliance with TDM requirements
- How best to measure the anticipated trip reduction impacts associated with TDM strategies and requirements

Based on initial research, staff would like to pursue a policy in which a number of TDM "packages" are created. Each package would contain a specific set of TDM strategies that are selected based on their ability to work effectively together and generate significant vehicle trip reductions. Developers would be able to select a package from various options. The available packages from which developers would choose could vary based on location, land uses, and other characteristics. Staff would like to move forward with the identification of improvements to the TDM Toolkit with this concept serving as the basis for future changes.

<u>TDM Best Practices Research</u>

Best practices research was conducted for three primary subject areas: (1) opportunities to create sustainable funding sources for the implementation of TDM; (2) current best practices for the integration of TDM requirements into the development review process; and (3) best practices for encouraging and/or requiring developers to include bike share and car share spaces at new developments.

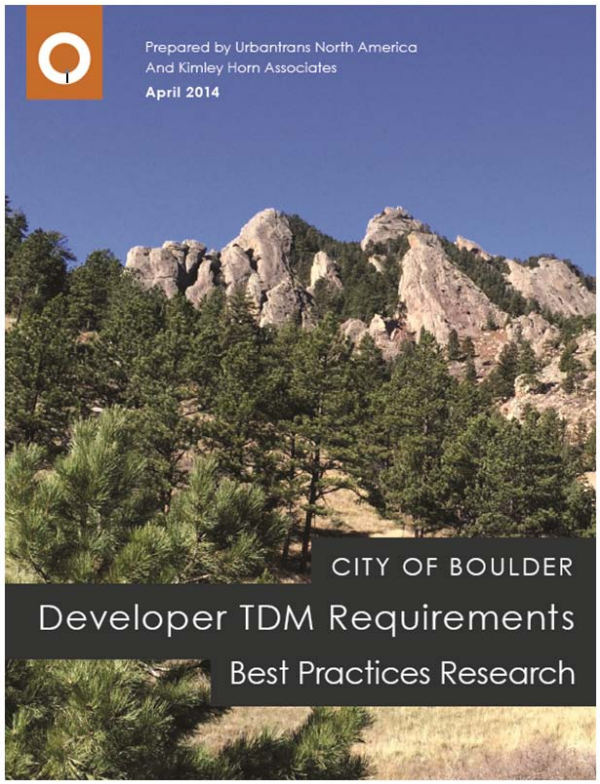
A major component of the research for this task will be the collection of best practices information from communities that have implemented successful development-based TDM requirements. Key research areas included:

- The processes communities use to develop TDM plans
- What TDM and parking strategies they require
- What triggers TDM requirements, how TM program funding is guaranteed
- Internal staffing costs
- Enforcement policies

- Incentives to encourage developer participation
- Processes for benefit estimation
- Inclusion of bike share and car share requirements
- Use and/or funding of transportation management associations to meet TDM requirements
- Zoning regulations and language
- Lessons learned

A special focus is being placed on the identification of "documented results" (although we have been disappointed to find a general lack of results documentation primarily due to resource limitations within TDM programs overall). However, despite the general scarcity of data related to program results measurement, recent research has turned up some promising leads. This research will be directed toward the development of Boulder specific defined program metrics geared toward documenting overall program success in a number of key areas.

TDM Toolkit Modification and Design



Upon conclusion of the best practices research, staff and our consultant team will work to review and modify the existing TDM Toolkit. The effort will start with a review of current issues that limit the toolkit's effectiveness.

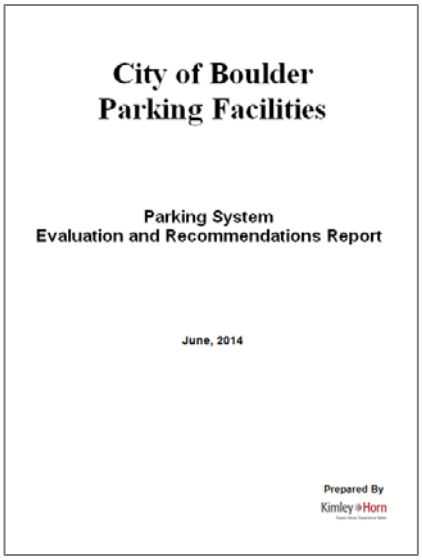
Information gathered in the best practices research will be used to identify new tools and strategies that can be used to improve the effectiveness of the toolkit. Additional research is being conducted (as part of this larger best practices research and the two research efforts will be merged as we focus on maximizing the benefits associated with TDM in the City of Boulder.

Draft recommendations will be reviewed through the public outreach process. Feedback obtained from that process will be used to update and improve the draft recommendations. Final recommendations will include estimates of developer costs and the staffing levels required to comply with the adjusted toolkit along with estimates of the toolkit's impacts on vehicle trip generation and the community cost savings associated with anticipated vehicle trip reductions. Ultimately, both research efforts will be merged into a single report.

2. Replacement of the Parking Access and Revenue Control (Gate Access System) in the Public Garages

The current parking access and revenue control system (PARCS) is near the end of its operational life. Significant progress has been made in the evaluation of system needs and the development of functional specifications for the proposed new system.

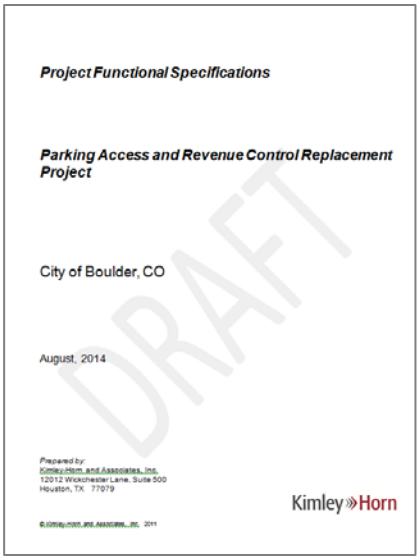
Review of the draft functional specifications and RFP document are currently being completed by City staff and the procurement process for the new system is expected to be completed by the end of 2014.


City of Boulder
Parking Facilities

Parking System
Evaluation and Recommendations Report

June, 2014

Prepared By
Kimley»Horn


Project Functional Specifications

Parking Access and Revenue Control Replacement Project

City of Boulder, CO

August, 2014

Prepared by:
Kimley-Horn and Associates, Inc.
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DRAFT

3. Parking/Access Demand Planning Software

In order to plan for access and parking demand resulting from new and projected land uses, a software-based parking planning tool will be essential. A system exists, "Park Plus", developed by Kimley-Horn and Associates that can model building uses as well as mode share percentages and parking demand rates to develop access demand projections for specific areas. This tool will be very important for the planning for the Boulder Junction area, where it is unclear what uses will be built, and for the redevelopment of University Hill.

Progress has been made in building the GIS-Based access demand model. Kimley-Horn and associates have met with representatives of Fox-Tuttle, a locally based planning firm that has worked for many years with the City of Boulder's parking program to ensure consistency of data and to reduce the need to duplicate data collection and planning scenario development.

Communications and Community Outreach

In addition to the seven primary focus areas of the AMPS project, community outreach strategies are another major area of focus for the project team.

Three primary phases have been identified within the area of communications and community outreach. These three phases include:

I. Inform, Educate and Engage
II. Test Ideas, Inform and Engage
III. Implement, Inform and Educate

For each of these phases, a combination of traditional outreach tools and strategies as well as a menu of new web-based/innovative tools and strategies are being explored. Examples of what is envisioned under each category are outlined below:

Traditional Outreach Tools and Strategies

- Board Meetings
- Presentations to Key Groups
- Open Houses/Charettes
- Individual Interviews
- Surveys
- "Coffee Talk" Listening Sessions
- Focus Groups
- Development of Project Info-Graphics

Web-based / Innovative Outreach Tools and Strategies

- Project Website
- Project Facebook Page
- Instagram "Your Point of View"
- "Common Place" / Polls Everywhere
- "Inspire Boulder" / MindMixer
- Partnering Organization's Social Media Sites
- An Expert Advisory Panel
- Special Invited Experts on Specific Topics or Emerging Trends

Boulder Best Practices Research

Best Practices and Peer City Research Summary

The following information is a summary of the best practices and peer city research efforts conducted as part of Phase One of the AMPS project.

This research effort is primarily organized by the seven major Focus Areas of the AMPS project. It should also be noted that specific "Peer Cities" were identified by staff. In some cases, the places where parking management and TDM innovations are occurring cannot truly be called "peer cities" due to their size or other factors, however, due to the advanced nature of Boulder's programs, we need to look beyond programs of the same size or orientation. These innovative communities/programs were simply classified as "Cities We Can Learn From" to distinguish them from true "peer cities".

In addition, given the advanced and progressive nature of the programs currently in place in Boulder, many of the identified "best practices" are already in place in Boulder. In the summary boards being developed for upcoming public meetings and Board updates, the following format will be used when summarizing the extensive best practices research:

- All materials will be organized by focus areas
- Under each focus area the following structure will be used:
    - Researched best practices
    - Data from selected peer cities
    - Advanced Concepts / Innovations (Cities We Can Learn From)
    - Listing of best practices already employed by the City of Boulder
    - A category for "What's Missing" to allow board members and the general public to bring forward strategies that may not have been captured.
- For each "Row" above on the summary boards, supporting columns will provide the following data:
    - Name of the strategy being reviewed
    - A brief description of the strategy
    - Applicability to Boulder - A checklist of how the particular strategy aligns with the AMPS project's Guiding Principles
    - An assessment of the replicability of the specific strategy

Public Meeting Input

The summary boards described above will be used to solicit feedback from the public and elected officials as to which strategies they feel should be prioritized. A voting exercise will be conducted allowing attendees to express which strategies they feel would be most impactful and appropriate for additional evaluation, assessment and refinement.

Parking Management Strategies - On-Street

Best Practice # 1

Strategy:

Evaluate the use and management of loading zones to improve loading efficiency and access to businesses

Description:

Understand how commercial loading zones are being used and determine if there is an opportunity to better manage loading zones so that carriers can access them quickly and easily, businesses are supported, and so that on-street parking operations aren't adversely impacted.

Action Items for Consideration:

- Review curb lane uses (location and management).
- Consider conducting a limited "Curb Lane Management Study" as a pilot program.
- Review of commercial loading activity (when, where, and for how long loading needs to occur)
- Consider developing a permitting system for use of loading zones. The use of "In-Car Meters" as the permit mechanism is being piloted in several cities and some are employing them for business/commercial accounts. More information on this use can be found at: https://www.easyparkusa.com/business-commercial.
- Review enforcement of loading zone regulations

Potential Sub-Strategies for Implementation:

- Convert loading zone space to on-street parking spaces at certain times of the day when delivery activity is low or non-existent
- Consolidate loading zones along the curb so that multiple businesses have access to centralized loading and the remainder of the space along the block is open for other curb lane uses
- Consider implementing loading zone permits. Match the needs of the carriers and businesses (e.g. have different permits available for purchase that allow carriers to access zones for various lengths of time)

Documented Results:

- Efficient use of curb space
- Better access to business for carriers
- Reduced conflicts with other curb lane users
- Reduced confusion on when and where to load and park
- Reduced citations related to illegal loading/unloading procedures
- Improved traffic flow since carriers are not blocking traffic to make deliveries

Stakeholder Engagement:

This strategy would require extensive outreach with the public, but particularly with business owners and commercial carriers to help determine how to appropriately manage loading zones.

Applicability/Similarity to Boulder:

This strategy is applicable to Boulder because it involves efficient management of existing community resources to improve business operations, the users experience, and promote efficient use of the curb space. It can be tailored to meet the specific needs of the Boulder community.

This strategy supports City goals of economic development, preserving and improving community character, and improving the City's transportation network.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

To implement a change in management to the City's loading zones, (e.g. a cost to manage loading zones, such as requiring permits or having a special meter rate for commercial use, regulating placement or time limits of commercial vehicles, etc.) will likely require the City to update their policies.

Cost Implications:

This strategy involves effectively leveraging already available community resources. The main cost of implementation might be in the stakeholder outreach, education, and communication.

References:

- Charlotte Center City Curb Lane Management Study (2011)
- New York City Off-Hour Delivery Program
- City of Houston

Best Practice # 2

Strategy:

Review implications of new federal regulations related to Accessible (ADA) Parking

Description:

On July 23, 2010, Attorney General Eric Holder signed final regulations adopting ADAAG 2004 for the design and construction of accessible buildings and facilities. The following is a summary of the information provided on the Department of Justice (DOJ) website. It should be noted that the regulations also include other requirements beyond simply adopting ADAAG 2004; thus the DOJ calls the overall regulation the 2010 ADA Standards for Accessible Design (2010 Standards).

The additional elements in the 2010 Standards (which DOJ terms “supplemental requirements”) appear to be in response to the most common lawsuits and otherwise contentious areas of enforcement since ADA first became effective. For example, there are updated regulations

related to requiring property owners/managers to allow service animals, wheel chairs and other mobility aids such as Segways in buildings, as well as updated requirements regarding communication aids, interpreters etc.

The 2010 Standards will take effect six months from publication of the regulations in Federal Register. Compliance with ADAAG 2004 for new construction and alterations will be required 18 months from publication.[1]

Action Items for Consideration:

- All new construction: after the trigger date after Feb/March 2012 must meet ADAAG 2004.
- All alterations to existing facilities: Alterations includes restoration as commonly defined in parking circles, as well as resurfacing of parking lots and any change to parking layout that occurs during resealing and restriping. These requirements have two parts: The actually planned restoration work aka "the alteration", and the path of travel to the area being altered.
    - If the alteration occurs after the trigger date, the alteration work must meet ADAAG 2004, even if it now meets 1991. For example, when parking lots are resurfaced and/or reconfigured after the trigger date, the parking layout has to be modified to meet the new requirement for 1 in 6 van stalls rather than the 91 requirement for 1 in 8 van stalls, unless it is structurally impracticable to do so. But even then the requirements should be met to the degree possible. For example, it would be structurally impracticable to provide the required 8'2" vehicular clearance for van stalls in a facility that does not now have that clearance. However 1 in 6 van stalls must still be provided, even without the required clearance. The reasoning is that many vehicles with side lifts requiring the larger stalls do not require the 8'2" clearance.
    - Path of Travel: ADA regulations require that improvements must also be made to the path of travel to the area being altered. For example, if the top level of the parking deck is being restored, there is an obligation to bring the path of travel to the top level up to ADAAG (1991 or 2004 according to the trigger date.) The limitation on how much must be spent on the path of travel is 20% of the cost of the alteration.
    - Safe Harbor: If the path of travel fully met the 1991 Standards before the trigger date, the "entity is not required to retrofit such elements to reflect incremental changes in the 2010 Standards solely because of an alteration to a primary function area served by that path of travel." In other words, no further improvements to the path of travel would be required if it met ADAAG 1991 before Feb/March 2012.
- Existing Facilities: ADA requires that property owners improve the areas of facilities where the public goes to receive goods and facilities3 that were constructed prior to January, 1993 to remove physical barriers. There is a different standard of care under the regulations for public entities (state and local governments and associated agencies) and private entities, under Titles II and III of the ADA, respectively.

[1] IPI – Department of Justice Adopts ADAAG 2004

Potential Sub-Strategies for Implementation:

- There is an excellent discussion of the differences between ADAAG 2004 and ADAAG 1991 posted on the DOJ website.[2]

Documented Results:

- Ensure compliance with ADA regulatory changes.

Stakeholder Engagement:

Changes in policy or regulations regarding handicap spaces or use of handicap placards should involve the handicap community, business owners, and the general public.

Applicability/Similarity to Boulder:

This strategy is applicable to Boulder and all public entities providing public parking which is mandated to comply with Federal accessibility standards.

Replicability:

This strategy is not optional and a careful evaluation of new regulations is recommended.

Policy Implications:

Review any special legal conditions that may be applicable to the City of Boulder.

Cost Implications:

A review of all potential changes required by the new ADA regulations should be conducted and specific costs estimated and compared to ADA guidelines related to cost limitations (typically 20% of the cost of the total project.

References:

- IPI ADA Whitepaper https://www.parking.org/media/58516/ada%20standards%202010b.pdf
- Topic Guides on ADA Transportation: http://dredf.org/ADAtg/index.shtml

Best Practice # 3

Strategy:

Assess the Use of Time Zones as a Parking Management Tool in Lower Demand Areas

Description:

Parking does not always have to be regulated by prices. Regulation through the use of time limits can be effective in areas where demands are not so high that they need to be managed by pricing. In general, time limits should be set to reflect parking demand. Some businesses thrive on shorter parking periods (30 – 60 minutes for dry cleaners or coffee shops, 1-2 hours for retail areas to allow customers to shop but also to encourage turnover, creating space for new customers; whereas other businesses or destinations need longer parking periods for their

[2] http://www.ada.gov/regs2010/titleIII_2010/reg3_2010_appendix_b.htm

users such as theaters and dining establishments. Time limits should be appropriately set to allow users to park for the necessary amount of time to support the surrounding land uses.

Action Items for Consideration:

- Research under what conditions might time zones without parking meters be an effective parking management strategy
- Understand the occupancies of the area in question to know when and where peaks occur
- Understand how long people are parking in an area
- Engage business owners to understand what time limits are suitable to support their business

Potential Sub-Strategies for Implementation:

- Adjust time limits in certain areas to reflect the needs of that area. For instance, an area that caters to long-term parkers can have longer time limits (e.g. around schools, employee parking areas, evening parking). Likewise, there may be some areas that need very little time and businesses thrive from higher turnover rates.

Documented Results:

- Maintains a level of availability along the curb. If it is determined that surrounding businesses and destinations have customers that only park for 1-2 hours, the parking time limits that reflect this ensure that people do not park for longer than necessary, creating more space along the curb for the next customer. As a result, users are able to find parking and businesses experience the amount of turnover necessary to support their business.

Stakeholder Engagement:

Any changes to the time limit structure should be clearly communicated to the public and other stakeholders through various methods of outreach (meetings, social media, media, etc.)

Applicability/Similarity to Boulder:

Time zone management is applicable to Boulder because it supports the City's goals of supporting area businesses by providing access to these destinations.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

Parking rules and regulations need to be considered and adopted. This strategy will likely trigger a change in the City's policies regarding time restrictions and how they are managed.

Cost Implications:

This strategy is relatively easy to implement since it does not require large investments in new technology or other infrastructure. It is a restructuring of how the parking is managed.

References:

- City of San Jose, Department of Transportation

- City of Austin, Downtown Austin Alliance

Best Practice #4

Strategy:

Coordinate On- and Off-Street Parking Rates

Description:

On- and off-street parking rates should be coordinated so that the parking facilities work together as a comprehensive system to achieve a common goal. For instance, the rates can be coordinated so that they encourage long-term parkers to use off-street facilities and short-term parkers to use on-street parking.

Action Items for Consideration:

- Review and compare existing on-street and off-street parking rates
- Coordinate with off-street parking providers to establishing a coordinated rate structure

Potential Sub-Strategies for Implementation:

- Adjust rates so that on-street rates are competitively priced with off-street rates to encourage parkers to park in the desired locations for the desired lengths of time

Documented Results:

- Encourages parkers to park in off-street facilities if they are parking for longer periods of time
- Creates more availability along the curb for those who need parking for quicker trips

Stakeholder Engagement:

This strategy will require extensive coordination with private off-street parking providers. Any changes to the rate structure should be clearly communicated to the public and other stakeholders through various methods of outreach (meetings, social media, media, etc.).

Applicability/Similarity to Boulder:

A coordinated parking system supports the City's goal of providing a balanced transportation system that uses the available parking supply efficiently and effectively.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

This strategy will require the City to reconsider their parking rules and regulations.

Cost Implications:

This strategy is relatively easy to implement since it does not require large investments in new technology or other infrastructure. It is a restructuring of how the parking is managed.

References:

- MTC Parking Code Guidance: Case Studies and Model Provisions (2012)
- City of Durham Comprehensive Parking Study

Best Practice # 5

Strategy:

Reassess Boulder's 72 Hour On-Street Parking Limitation (Abandoned Vehicles)

Description:

The City of Boulder considers a vehicle abandoned after 72 hours parked in one spot. As part of this project similar practices from other communities have been researched. A key consideration will be the balance between neighborhood livability and encouraging the use of other modes than driving. The following is a summary of the initial research:

Oregon DMV

- Vehicles in public right-of-ways that have not been moved in 72-hours are considered abandoned vehicles
- Anyone can report an abandoned vehicle towed and request removal
    - A posted notice must be affixed to the vehicle stating that if the vehicle is not removed, it will be towed
    - A form must also be filled out and signed that describes the vehicle to be towed, the location of the property the vehicle is on, and a statement saying that you have affixed a notice and waited 72 hours. This form must be provided to the towing agency.
    - References:
        - http://www.oregon.gov/ODOT/DMV/pages/vehicle/abandoned.aspx

Washington State Department of Licensing

- Abandoned vehicles are considered vehicles that have been impounded by a registered tow truck operator and held in their possession for at least 120 consecutive hours
    - The last registered owner on record must pay all costs related to the abandoned vehicle
- Reference Files:
    - http://www.dol.wa.gov/vehicleregistration/abandoned.html

Texas Statutes

- A vehicle is considered abandoned when it has been left unattended on public property for more than 48 hours or left unattended for more than 24 on the right-of-way of a turnpike
- Notice shall be given to the last known owner of the vehicle on record by law enforcement
- If left unclaimed, the vehicle can be auctioned
- Reference Files
    - http://www.statutes.legis.state.tx.us/Docs/TN/htm/TN.683.htm

City of Durham, NC Code

- An abandoned vehicle is that which:
  - Has been left on any public street or highway for more than 7 days
  - Is left on city owned and operated property for more than 24 hours
  - Is left on private property without consent of owner, occupant, or lessee for longer than 2 hours
- Notice is given to the registered owner by the housing code administrator. Notice contains:
  - Description of vehicle
  - Location of vehicle
  - Violation
  - Procedure owner can follow to request a towing
  - Date the vehicle will be towed (if not requested)
  - Notice that the vehicle is subject to a lien
- If owner cannot be identified, a warning notice will be posted on the vehicle with the date it will be towed and number to contact. The vehicle will not be towed until 7 days have passed
- Reference Files
  - http://durhamnc.gov/ich/cb/nis/Documents/Vehicle%20Ordinances%20(2).pdf

City of Maple Plain, Minnesota

- Abandoned vehicles are regulated because they can impact traffic, interfere on private property, and create safety and health hazards that impede the well-being of the public and contribute to public blight
- A vehicle is considered abandoned if a vehicle has remained on public property for more than 48 hours or on private property for more than 96 hours.
- Reference Files:
  - http://www.mapleplain.com/vertical/sites/%7B1E07A900-35B0-4FBD-9A42-9B27B50AAA7E%7D/uploads/%7BA421E71E-FDE6-4A21-A1F7-1FD3F62B0ECB%7D.PDF

Center for Problem-Oriented Policing, University of Albany, Abandoned Vehicles Guide No. 53 (2008)

- Abandoned vehicles can be a hazard (waste and fluids from the vehicle leak and aren't disposed of properly), attract unlawful behavior (drug drops, prostitution), and uncleanliness (refuse, act as homeless shelter)
- Vehicles are typically considered abandoned due to:
  - Condition – damaged or missing parts, garbage in the vehicle
  - Missing or outdated license plates or registration
  - Length of time at location – short period of time on highways and limited-access roads and longer periods of time in parking facilities, and mid-length of time for on-street parking
- Time must elapse between the time the vehicle is tagged or reported as abandoned and when it is towed.
- When analyzing a community's abandoned vehicle problem, consider the following:
  - The location and time vehicles are being dumped
  - Number of abandoned vehicles and their condition
  - Are the places vehicles are being dumped being affected environmentally

Action Items for Consideration:

- Boulder's 72 hour policy is consistent with several other communities and is greater than some cities and much less than others. It appears to strike a good balance.
    - The range from other communities was between 24 hours and 7 days.
- Providing registered vehicle owners with a reasonable period of time to respond is an important consideration
- The longer vehicles stay on the street, they more it attracts unlawful behavior (according to law enforcement personnel and cause environmental issues (according to public works officials).
- Reducing the interval for removing abandoned cars can result in less vandalism and more vehicles being returned to owners (these results occurred in Michigan as a result of reducing the time from 48 hours to 24 hours).
- Balancing between the aesthetics of living cars on-street for longer periods of time with encouraging people not to drive and use modes other than cars.

Documented Results:

Metrics for evaluating abandoned vehicle policy effectiveness include:

- Fewer documented abandoned vehicles
- Fewer abandoned vehicles reports
- Reduced time between reports
- Fewer vehicles sold at government auction
- Fewer vehicles reported meeting the abandoned vehicles definition for your community
- Fewer complaints from owners of abandoned vehicles re: lack of notification, lack of time to respond, etc.

Stakeholder Engagement:

The public should be informed of any changes made regarding the law; however, the process of changing the law should require only the normal level of public involvement associated with changes of this sort.

Applicability/Similarity to Boulder:

Virtually all cities have some form of abandoned vehicle policies in place. The issue here is how long is an appropriate timeframe before a vehicle is considered abandoned.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

Adjustments to the 72-hour limitation will require the City to review and update its policies and rules regarding abandoned vehicles.

Cost Implications:

Low cost to implement.

Best Practice # 6

Strategy:

Repurpose On-Street Parking Spaces

Description:

With an explosion of new uses for on-street parking (bike corrals, bike sharing, car-share, electric vehicles, parklets, etc.) research how other communities address the policy issues related to these potential changes in the use parking spaces in the public right-of-way.

Action Items for Consideration:

- Understand parking demands to determine appropriate locations where spaces can be repurposed. This might be in areas with mid- to low parking demands or areas with ample parking supply.
- Review the use and implementation standards of parklets (where to locate and how to manage)
- Review the use and implementation standards for on-street bicycle parking (e.g. bike corrals), (where to locate and how to manage)
- Review the use and implementation standards for EV charging stations (where to locate and how to manage)

Potential Sub-Strategies for Implementation:

- Consider appropriate and wanted uses to repurpose on-street parking in appropriate locations (e.g. parklets, charging stations, car sharing, bike parking, etc.)

Documented Results:

On-Street Bike Parking: typically appropriate in a location that regularly sees more than 10 bicycles locked outside. Can hold approximately 20 bikes in one location and occupies 1-2 vehicular parking spaces

- **Parklets:** appropriate in areas with low parking occupancies. They expand park space, seating areas, green space, etc. of a community. Main benefit is that it maximizes the use of an otherwise underutilized space.
- **Car Share:** car share programs may occupy on-street parking spaces (the number depends on the size of the fleet), however they have been shown to reduce on-street parking demands because fewer people need to drive. In Hoboken, NJ, approximately 3,000 members have either decided to give up their personal vehicle or not purchase a car at all.

Stakeholder Engagement:

Engagement with stakeholders will play a major role in this strategy. The removal of on-street spaces is usually met with some contention and open, frequent communication needs to happen with surrounding land uses in order to gain support for the project. Education should also be a component of the stakeholder engagement.

Applicability/Similarity to Boulder:

This strategy supports the City's goals of creating a sense of place, improving sustainability practices, and efficient management of the on-street parking supply. This strategy is applicable in many communities; however the exact locations and implementation will have to be tailored to the City of Boulder to meet Boulder's needs.

Replicability:

Although able to be applied to the City, this strategy requires some design and area specific considerations that make this strategy more difficult to replicate in all desired areas.

Policy Implications:

The City may have to review their right-of-way rules and regulations to determine whether certain other uses are allowed on the street. This may involve adoption of new policies to allow these uses and determine standards for when these uses are appropriate, design standards, and a process for request and implementation of these uses.

Cost Implications:

This strategy has the potential to be more expensive because of the need for infrastructure, potential policy changes, coordination efforts, and potential technology related to the strategy.

References:

- City of Portland, Portland Bureau of Transportation
- City of Hoboken, Transportation and Parking
- "Data Show a City's Car Sharing May be Working..." The New York Times (2012)
- "2013 Seattle Free-Floating Car Share Pilot Program Report Prepared by the Seattle Department of Transportation" (2014)

Parking Management Strategies - Off-Street

Best Practice # 7

Strategy:

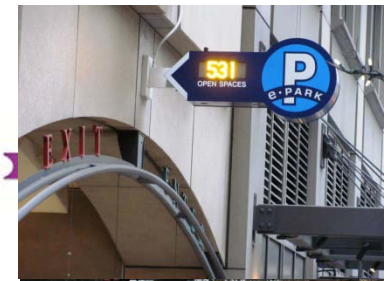
Develop relationships/potential partnerships with the owner's/operators of existing private parking assets as a cost effective and environmentally sensitive approach to improving parking supply/availability

Description:

As the public parking supply in the downtown gets tighter, it often the case that private parking supply is underutilized. There are two specific strategies that might be considered to increase the availability of publicly available parking by leveraging under-utilized private parking assets.

Downtown Seattle Parking Model

The first is a model jointly developed by the City of Seattle/The Downtown Seattle Association/Commute Seattle and the Metropolitan Improvement District which operates under the name



"Downtown Seattle Parking" (www.downtownseattleparking.com). This partnership was created when the decision to remove the viaduct roadway from along the waterfront due to structural issues created by earthquake damage. Removal of the viaduct would also cause the loss of a significant amount of surface parking used primarily to support downtown retail. While the reality was that the loss of parking under the viaduct was not enough to create major parking issues overall, there would be localized parking shortages. The bigger issue was a perception of a lack of parking downtown and a perception that parking downtown was very expensive. Public opinion surveys ranked parking as one of the greatest barriers to coming downtown. Another factor in this equation was the fact that the City had not invested in many public off-street parking facilities, and therefore had very little ability to impact parking supply and/or pricing.

In response the City developed partnerships with private parking owners and operators and launched their E-Park Program – a system of variable message, parking wayfinding signs that included information on available spaces. This was followed by the Downtown Seattle Parking program that attempts to create a unified parking system and marketing program to promote a combination of parking and alternative transportation options, especially during anticipated 10 years of Waterfront construction. The Downtown Seattle Parking Program website also has excellent web-based maps and other resources documenting parking availability, location and rates. Recent improvements related to mobile-optimized websites have dramatically increased site usage. The program also invested heavily in paid advertising, extensive media coverage and a range of other outreach strategies to increase program awareness and utilization. Documented results included dramatic increases in garage utilization (upwards of 146% in some locations). Specific agreements are required for participating private garage partners, including agreements for reduced pricing during certain timeframes to help address the "perception of cost" and affordability issues.

Downtown Asheville Model

In Asheville, NC a downtown parking study conducted by Kimley-Horn and Associates confirmed the suspicion that the City's three public parking garages were approaching capacity. The study projected that another 1,000 spaces would be needed over a ten year planning horizon within the study area. However, the study also made another interesting observation. While it was true that the City's three public parking facilities were over 90% utilized, these garages only represented 20% of the total parking supply in the downtown area. The remaining 80% of the supply was made up of private parking assets. The private parking resources (80% of the total supply) averaged a 50% utilization rate. A concept was advanced that the City could, in partnership with the private sector, develop a virtual "online market place" for the underutilized parking spaces. While the envisioned system might cost upwards of $1,000,000, that cost was approximately 1/25th of the cost of building a new parking garages to meet the long-term needs.

Action Items for Consideration:

- Assess private parking utilization rates
- Identify locations of available private parking resources
- Assess willingness of private parking owners/operator to participate
- Develop a strategy specific to Boulder
- Develop the framework for a pilot program

Documented Results:

- Improved parking availability
- Better use of existing assets
- Environmental benefits related to not over-building parking supply
- Cost savings compared to new facility construction

Stakeholder Engagement:

This type of program innovation will require significant planning, research and stakeholder engagement to produce a plan and get buy-in. However, evidence from the Seattle program indicates the program could generate significant benefits for all parties.

Applicability/Similarity to Boulder:

This strategy is applicable to Boulder as a potential strategy to address parking supply issues without building additional public parking, by leveraging existing, underutilized resources first.

Replicability:

These strategies are still relative new and would require a certain degree of customization and experimentation.

Policy Implications:

While these strategies are aligned with many overall community goals, issues such as revenue sharing, city investment in a program that would benefit certain private business could create potential policy issues.

Cost Implications:

Compared to building new parking facilities this project could result in significant cost saving long-term, however an initial investment in system development, technology, marketing and community engagement would be required.

References:

- Seattle Downtown Parking Presentation from IDA Conference 2014
- www.downtownseattleparking.com

Best Practice # 8

Strategy:

Evaluate the use of "One Day Parking Permits"

Description:

Offering a single day parking permit for public garages may be a positive customer service amenity. This approach can simplify parking for visitors from out of town if businesses purchase them in advance and provide them to their guests. It can benefit the parking system by getting permits paid for in advance.

Another approach is to offer a single day parking through an on-line reservations system. This is done by the Bart Program in San Francisco. The "Hercules Transit Center Single Day Reserved Parking Reservation System" is for patron's using the Hercules Transit Center. All Sales are Final. No Transfers or Refunds. The following outlines this systems procedure:

- Have your license plate number available before continuing, if you do not have a plate number, use the last eight digits of your VIN number. Misentering your plate number will result in ticketing and billing for permits that may not be yours.
- Choose the desired station and desired dates of use from the menu. A computerized reservation system will determine whether permits are available at that station for the dates requested. Only 10 days of permits may be purchased at one time.
- If permits are available, you will be asked to supply the license number of the vehicle in which the permit will be displayed.
- Credit card information where parking fees will be billed. Your credit card statement will show REMIT-ONLINE as the payee. Renounced charges are subject to a $20 fee.
- You will be billed once each month (in areas) for all the single day permits you purchased during the prior month to the last card entered prior to billing. The billing to your card will reflect the total of ALL permits purchased during the prior month.
- Upon approval, print EACH permit FOR EACH day you have reserved on your home or office printer.
- Display ONLY ONE permit on dash of vehicle in parking area at authorized location.

The City of Ann Arbor experimented with a similar system through a company called Parking Carma.

Action Items for Consideration:

- Determine rules related to permit issuance and usage.
- Identify where permits are valid and when
- Identify where and how permits can be obtained

Documented Results:

- Effective in high demand areas
- Provides reliability for those who need to park, but may come later in the day when parking may be full or harder to find.
- Rate can be higher to support the benefit of having a space guaranteed.
- Can be problematic if supply is overly tight and space cannot be guaranteed
- May require special equipment to secure/access reserved areas/spaces.

Stakeholder Engagement:

Market research should be conducted in advance to verify that there is sufficient demand for such as service. If implemented, this strategy would require education related to how the program functions, permit costs, special rules/regulations, etc.

Applicability/Similarity to Boulder:

This strategy may be applicable to Boulder if there is a demonstrated need for this type of service.

Replicability:

This strategy is replicable for any community.

Policy Implications:

This program addition is considered a relatively minor program option, which should not create significant policy issues.

Cost Implications:

A cost/benefit analysis is recommended re: the cost for developing or purchasing the parking reservation software. This approach may be supported by some pay-by-phone applications.

References:

- https://www.park-by-phone.com/daily/default.aspx?ownerid=hercules
- http://www.parkingcarma.com/

Best Practice # 9

Strategy:

Develop a Parking and Access Management Program Strategic Communications Plan and Annual Report Template

Description:

It is important to communicate program progress and goals with the public on a regular basis to keep them informed. A template for an annual report could be developed to communicate the progress, goals, and upcoming projects or improvements. A consistent template will streamline the process of developing the report as well as give the report a unique identity.

Action Items for Consideration:

- In developing an on-going strategic communication plan for your program, the following project goals should be assessed:
  Does it effectively support your goals?
- Does it honor the findings of your audience analysis?
- Do you have the resources necessary to complete the project?
- Can you execute in a way that aligns with your windows of opportunity?
- Can you execute in a way that allows for durability, easy updating, or adaptive reuse?

Documented Results:

- Improved communication with the public.
- The report can be used as an educational component to educate the public on the aspects of the parking system.
- Re-establishes City goals on a regular basis.

Stakeholder Engagement:

Stakeholder engagement to produce the report is likely minimal since it is a report that communicates the state of the parking program.

Applicability/Similarity to Boulder:

This strategy is applicable to the City because it involves continued communication of the City's programs and goals, thus supporting the goal to be an inclusive community.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

The City would not have to review or adopt new policies to produce a report of this nature. It may, however, help the City evaluate its goals and direction and highlight new policies or regulations that should be considered.

Cost Implications:

This strategy is relatively easy to implement since it does not require large investments in new technology or other infrastructure. It is a communication document of how the access management and parking systems are managed.

References:

Missoula Parking Commission Annual Report (2012)

Best Practice # 10

Strategy:

Explore the Concept of "Edge Parking" as Potential Commuter Parking Strategy

Description:

Remote parking and park and rides are nothing new, but with the growth in Transit Oriented Developments, in which less parking is being provided to increase the potential for development density, providing "storage parking" options that can be accessed by rail, BRTs or transit for occasional use of second vehicles is a topic that is gaining attention.

Action Items for Consideration:

- Analyze transit network and parking available that support those transit networks.
- Coordinate with transit providers to determine what types of parking would best support their users.
- Review land use codes and how they apply to transit.
- Analyze parking demands and ridership to understand how much parking should be provided.
- Ancillary items to consider could include connectivity for pedestrians and bicyclists.

Potential Sub-Strategies for Implementation:

- Consider shared parking agreements with nearby parking providers
- Consider changes to land use codes to reduce parking requirements
- Establish parking priority for van/carpools, carshare programs
- Implement paid or permitted parking to regulate high parking demands in facilities that serve transit.

Documented Results:

- Supports the use of transit because it provides a place for commuters to parking their vehicles and take transit options to complete their trip.

- As parking facilities near transit providers becomes too heavily occupied, these sub-strategies can help to balance demands while still supporting transit user needs.

Stakeholder Engagement:

Stakeholders, particularly the transit providers and operators, need to be engaged to help determine what parking is appropriate and how to manage the parking.

Applicability/Similarity to Boulder:

This strategy supports the City's goals of supporting transit and other modes of transportation by providing sufficient parking to support the transit network.

Replicability:

Although able to be applied to the City, this strategy requires some design and area specific considerations that make this strategy more difficult to replicate in all desired areas.

Policy Implications:

This strategy would require that parking rules and regulations need to be considered and adopted as they relate to transit use. In some instances it may require the reduction of parking requirements. But more so it may be in regards to how the parking is managed.

Cost Implications:

The cost for this strategy varies depending on what is needed. If parking facilities already exist and it is just a matter of managing them for the use of transit riders, then the cost might be relatively low. However, if new parking needs to be constructed, the price will be on the higher end.

References:

- "Smarter Parking at Transit Stations", Susan Shaheen and Charlene Kemmerer, (2007).
- "Guidelines for Providing Access to Public Transportation Stations". Transit Cooperative Research Program, Report 153.
- City of Seattle, Sound Transit
- Santa Clara Valley Transportation Authority

Best Practice # 11

Strategy:

Use Parking to Create a Sense of Place

Description:

Garages don't have to be the stereotypical structure with a less than appealing façade. There have been trends in many downtowns to design lots and garages so that they match the character of the surrounding area. In this way, garages can be part of the fabric of the community, rather than an eyesore. Additionally, off-street parking facilities can be designed to accommodate other uses when they aren't being utilized. An example can be farmer's market or other type of social activity on the weekend in a lot that is typically only used during the week.

Action Items for Consideration:

- Identify existing facilities that could incorporate some art, mixed uses, or otherwise support community needs.
- Adopt design guidelines and land use policies that encourage the integration of parking facilities into the fabric of the community.
- Consider access management guidelines to restrict the number of driveways for a parking facility.

Potential Sub-Strategies for Implementation:

- Incorporate art into parking garages.
- Incorporate mixed use into garages (e.g. retail, restaurant on first floor and parking above)
- Use lots to host community events when they aren't occupied (e.g. farmer's markets on the weekends)

Documented Results:

Integrating parking facilities into the character of the community has been gaining a lot of recent attention, particularly in downtown parking facilities. Having the ability to incorporate retail or restaurants in a parking facility makes the parking facility more attractive. Incorporating art or at least a decorative facade into the parking structure that matches the surrounding buildings helps to maintain the visual quality of the area.

Stakeholder Engagement:

The City should work with developers, parking providers, and internal city departments to determine appropriate guidelines for alternative uses and design guidelines for parking facilities.

Applicability/Similarity to Boulder:

This strategy supports the City's goals of creating a sense of place, maintaining and building upon the City's character, while supporting the transportation network.

Replicability:

Although able to be applied to the City, this strategy requires some design and area specific considerations that make this strategy more difficult to replicate in all desired areas.

Policy Implications:

This strategy would require that parking rules and regulations need to be considered and adopted, related to designing and construction of parking facilities and how those facilities can be incorporated into the community.

Cost Implications:

The cost for this strategy varies depending on what is needed. If the result is a restructuring of the parking policies then the cost might be relatively low. If the City becomes more involved and decides to construct, redevelop, or add art or other uses to the facilities, it may be more expensive.

References:

- "Build a Better Burb How to Manual: Better Transit/Less Parking". Susan Weaver.

Best Practice # 12

Strategy:

Explore the "Brackets" System of Shared Parking

Description:

The "Brackets" concept takes a combination of mainstream ideas and packages them in a new way. The "Brackets" concept marries a shared parking strategy with signage/wayfinding, pedestrian pathways and landscape improvements that make it easier to find available parking, and more pleasing to walk from the designated parking areas to a range of possible destinations. This concept could be linked to more effectively utilizing private parking assets in an integrated system.

Action Items for Consideration:

- Coordinate with all off-street parking providers to determine their occupancies and best ways to navigate to their facility.
- Install new signage where appropriate to help people navigate to parking facilities. If the City desires the wayfinding system can be dynamic, allowing the number of available spaces to be shown. This would require additional coordination with parking providers to ensure that they count vehicles entering the facility and are able to share that information.
- Clearly identify each facility by name and/or visually (e.g. giving each facility a unique look).

Potential Sub-Strategies for Implementation:

- Facilitate shared parking between municipal lots and other parking providers
- Direct motorists to available parking with common signage, wayfinding and well landscaped pedestrian pathways. The use of mobile apps is another potential option to promote parking options and availability.
- Create an identify for each lot and tie the lots together in a systematic way.

Documented Results:

The brackets have helped balance demands between off-street facilities that were easier to find (and therefore almost always full) and those that were less easy to find (and therefore underutilized). As a result, the brackets helped make better use of the parking that was already available.

Stakeholder Engagement:

Engagement for this task is mostly with the parking provider community to determine appropriate methods for wayfinding and identification. This relationship with the parking providers would have to be ongoing to maintain the system. The City could act as the facilitator that brings all parties to the table to discuss how this strategy would be best applied.

Applicability/Similarity to Boulder:

This strategy is able to be applied to the City of Boulder since it is more of a coordination and management strategy. The wayfinding system can be incorporated into other City wayfinding

systems, should the City decide to move in that direction. Additionally, this strategy supports the City's goal of optimizing the existing parking supply.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

The key component of this strategy is cooperation among the various off-street parking providers. However, this strategy may require the City to consider their signage policies and update them if necessary, particularly if dynamic wayfinding is desired. The policies need to be supportive of the City's goals.

Cost Implications:

The cost to implement this strategy could vary; however, this strategy has opportunity for public/private partnerships that may alleviate some of the cost for the City. The cost would lie in installation of new signage and continued coordination.

References: "Main Street Brackets: Shared Parking Patchogue". Build a Better Burb.

Technology and Innovation Strategies

Best Practice # 13

Strategy:

Develop an Overview of Currently Available Parking Technology Options

Description:

This review will focus on currently available technologies, payment methods, and their implications for both the customer and program staff. It is also important to understand that more technology is not always better, but rather how that technology is used. A lot can be accomplished with efficiently used, minimal technology. Technologies for consideration could be in-car meters, “Skymeters”, various pay station options and add-ons. This would include a review of what benefits come with each type of technology. This strategy would evaluate the different technologies available in Boulder and consider ways to integrate them into a comprehensive system.

Action Items for Consideration:

- Inventory the type of technology currently in use by the City and its add-on capabilities.
- Review City parking goals and determine whether the technology is able to accomplish the City's goals.
- Research existing parking technologies and their benefits.

Potential Sub-Strategies for Implementation:

- Implement add-on features to the existing technology in use (e.g. improved payment options, increased capabilities to collect parking data on the back-end to better analyze parking patterns, etc.)
- Install new technology to enable the City to meet their parking goals.

Documented Results:

Improved technology makes the parking system easier to manage from the City's perspective and easier to use from the users perspective.

Stakeholder Engagement:

When reviewing available technology it might be beneficial to understand how the system is used and what users would like changed to make the system better. To accomplish this, engagement with the public, users, and business owners is critical.

Applicability/Similarity to Boulder:

This strategy is applicable to the City because it involves a review and improvement of their technology. It helps support the City's goal of managing the existing parking system more efficiently and effectively.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

Since this strategy is to inventory and review available technology trends, it would likely not trigger any policy changes.

Cost Implications:

This strategy is relatively easy to implement since it does not require large investments in new technology or other infrastructure. It is an analysis of the parking system technology and potential restructuring of how the parking is managed through technology.

References:

- City of Phoenix On-Street Parking Study, Kimley-Horn and Associates (2012).
- Missoula Parking Commission Parking Pay Station Study: On-Street Parking Technology Overview, Kimley-Horn and Associates (2013).

Best Practice # 14

Strategy:

Research the Latest Developments in the Area of Parking Apps, Parking Availability Monitoring

Description:

Wireless communications are transforming the parking and transportation industry by providing new and powerful tools to improve information on transportation options, providing parking availability, parking pricing and trip planning.

There are a range of potential options in this area. The most technologically advanced (and most expensive) systems utilize wireless sensors embedded into the pavement to track utilization of on-street parking in real-time. (LA Express Park, SFpark, etc.). One use of this new on-street utilization data has been to inform demand-based parking pricing programs. The theory is that in areas with higher parking demand the price to park would increase, thus shifting demand to other on-street areas with more availability by offering a lower price point or to available off-street locations. This "balancing" of parking demand also has the effect of reducing congestion from vehicles "cruising for parking", improves the perception that parking is available by targeting a 15% vacancy rate for on-street spaces and has environmental benefits related to reducing vehicle emissions and vehicle miles traveled by reduced cruising. One of the systems with the most market share in this arena is the StreetLine system. ParkSight is a software module within the StreetLine system that provides extensive system data that can be used to drive parking analytics to help you better understand how your assets are being utilized and allowing better data-driven decisions. For more information visit: http://www.streetline.com/.

Other, less equipment dependent options are also on the market. For example, ParkMe is a mobile app that uses historical parking utilization data merged with a proprietary program/algorithm to provide potential parkers with data that estimates "the likelihood" of finding an available space based on historical patterns. For more information visit: http://www.parkme.com/.

There is an extensive amount of information available on this topic. A separate white paper has been provided with information on all the major programs currently being tested from around the country. Also, the SFpark program from San Francisco recently issued its evaluation report of the multi-million dollar, FHWA funded pilot project. This evaluation is also included in the research materials.

Action Items for Consideration:

- Research smart phone applications and implementation and data needs associated with smart phone or web-based parking tools.
- Document the latest technologies and applications related to parking and access management and explore potential pilot programs for those strategies most applicable to Boulder's current needs.
- Low or no-cost "pilot programs" are being offered by several of the major system providers and may be an option for Boulder to consider.

Potential Sub-Strategies for Implementation:

- Coordinate with all parking providers to obtain availability, rate, time limit, validations, and other necessary information that the City may want to provide on a map, website, or application.
- Review the City's goals to determine the best technology(ies) to use.
- In reviewing the major sensor-based programs from around the country, one key issue emerged. While having real-time utilization data for on-street parking was valuable, parking rate changes based on demand were not effective unless they could be communicated and understood by the public so that they could use the data to affect parking behavior changes. As a result, demand-based pricing changes that originally were tested on a weekly basis, shifted to monthly and eventually to a quarterly basis.
- Seattle has chosen to use a more traditional data collection process and make adjustments only once per year

Documented Results:

Use of maps, parking applications, and availability monitoring enable users to find parking easily, reducing the need to circle to find parking and thus reducing congestion and vehicular emissions. Additionally, users are able to make better decisions about where to park before they get in the car. Furthermore, identifying where parking is available or where it is cheapest can help to balance parking demands, both on- and off-street.

The SFpark Pilot Project Evaluation document published by the San Francisco Municipal Transportation Agency (SFMTA) is organized by the following chapters:

- Executive Summary
- Overview of SFpark
- Effectiveness of Parking Pricing
- Effectiveness of Parking Management
- Parking Enforcement
- Congestion and Environment
- Transit Performance
- Customer Experience
- Economic Vitality
- Financial Analysis
- Technology

Stakeholder Engagement:

This strategy requires coordination with all parking providers to obtain and update price, time limit information, availability, and other parking information that the City wishes to track and communicate to the public.

The public, parking users, and businesses should be engaged to solicit their input on which technologies they prefer.

Any implementation of new technology should be well advertised to the public and an educational component should be included in the outreach efforts to help people learn how to use the new technology.

Applicability/Similarity to Boulder:

This strategy is applicable to Boulder since it is a review and update of wireless parking technology. It supports the City's goals of effective and efficient management of the City's parking and transportation network.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

This strategy may require the City to evaluate their policies on the use of wireless technology.

Cost **Implications:**

The cost to implement this strategy involves extensive and ongoing coordination with parking providers as well as maintenance of the wireless technology in use.

References:

- SFPark Pilot Project Evaluation, SFMTA (2014)
- LA Express Park

Best Practice # 15

Strategy:

Multi-modal Apps and Payment Cards

Description:

Our cities are undergoing a dramatic shift in urban mobility. Changing demographics, economies, technologies, and environmental pressures have altered traditional travel demand to more sustainable transportation modes. The future of urban mobility, specifically in regard to public transit and shared-use mobility services (e.g., carsharing, bikesharing, and ridesharing), as well as multi-modal transportation. Multi-modal means having access to multiple modes in making a trip.

One aspect of what has been called “digitized” transportation access involves the use of “multi-modal apps and integrated transportation payment platforms.

Shared-use mobility services can complement public transit by addressing the first/last mile problem and, thereby, enable households to reduce their automobile dependence. Multi-modal trip making has created a new demand for enhanced integration among transportation options. At present, the vast majority of transportation systems require that travelers use transit smartcards, bikesharing key fobs, and carsharing mobile apps and/or smartcards to access modes independently. This can create a disarray of memberships and hardware. Instead, users are in need of an integrated platform that enables them to seamlessly compare (cost, route, time spent, etc.) and access and pay for different transportation services.

The smartphone is one tool likely to have an increasing role in multi-modal transportation. Mobile apps like RideScout and Nimbler, which aggregate public transit and shared-use mobility services into one map, allow users to find the various modes available nearby and even book and pay for some. Similarly, Red Ride aggregates ridesharing, on-demand ride services, and carsharing services and enables users to find the closest vehicles available. These apps are on the forefront of “digitized” transportation access and will play a growing role in urban mobility in the future.

Apart from the smartphone, RFID technology may also play an increasing role in multi-modal transportation in the future. Unlike the smartphone, most public transit services, many carsharing, and several bikesharing providers currently enable user access through an RFID card, and some partnerships have already been formed.

Action Items for Consideration:

- Review programs such as:
    - Chicago Transit Authority (CTA) and I-Go Carsharing that have begun offering a joint carsharing and public transit pass.

  - New York, San Francisco, and Chicago, bikesharing systems are equipped with RFID card readers in anticipation of a multi-use RFID card.
  - Similarly, B-cycle bikesharing equipment, which can be found in over 15 cities across the United States, features RFID card readers.
  - In London, the Oyster card has set the precedent for RFID admission as cardholders are able to access local and regional forms of the transportation network with a single card, including the subway, light rail, regional rail, trolleys, and buses.

- While multi-modal RFID cards are already helping users access multiple transportation modes, they too have their limitations. Most apparent: RFID cards are unable to show expected trip times or give users an understanding of where the closest available bike sharing bicycle or carsharing vehicle is located. Recognizing this gap, the company TransitScreen developed a kiosk for public transit destinations that enables users to find which transportation options are available nearby. Hypothetically, a cardholder would be able to find their mode(s) of choice on TransitScreen − or a similar kiosk − and use a single RFID card to access them, regardless of the mode.

Potential Sub-Strategies for Implementation:

- Review transportation alternatives and evolving infrastructure
- Identify potential funding opportunities that, based on the trends, can help the City with transportation projects.
- Explore trends in the use of hybrids and electric cars

Documented Results:

Examples of this emerging trend include:

- Washington, DC-based RideScout integrates data from a host of different providers, including carshare, bikeshare, fixed-route transit, and the burgeoning market of ride services.
- Commute Greener! (a platform for mobility management) UbiGo is a “mobility as a service” project that uses the platform. Both UbiGo and Commute Greener! are examples of innovative initiatives organized by the telematics service provider WirelessCar, a wholly owned subsidiary of the Volvo Group.
- The Las Vegas based company Zappos’ Project 100, which aims to create a seamless network of 100 on-demand chauffeured Tesla sedans, 100 shared vehicles, 100 shared bikes, and 100 shared shuttle bus stops that a phone app would optimally assign to each subscriber who inputs a destination. This mixed mode "concierge" service could be the next level of the concept of mobility as a service.

Stakeholder Engagement:

Since this strategy is to review mobility trends, stakeholder engagement may be minimal. However, the City may wish to survey the general public or other select groups to identify their preferences in regards to some results found in the analysis of the trends.

Applicability/Similarity to Boulder:

This strategy is applicable to the City of Boulder in that it is very well aligned with the City’s transportation and environmental goals.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

A potential outcome of such a review could be to leverage this new technology trend to shape and influence commute behaviors, improve mode share and influence transportation practices and policies.

Cost Implications:

Costs will vary depending on the specific technologies employed, however the cost to the City could be minimal if its role is primarily an advocate of private sector initiatives.

References:

- Is The Future Of Urban Mobility Multi-Modal & Digitized Transportation Access? (Susan A. Shaheen, Co-Director, Transportation Sustainability Research Center, University of California, Berkeley and Matthew Christensen, Researcher, Transportation Sustainability Research Center, University of California, Berkeley) http://www.newcitiesfoundation.org/future-urban-mobility-multi-modal-digitized-transportation-access-2/
- "Next Stop, Innovation: What's Ahead for Urban Mobility?" Wharton Enterprise (2013)

Best Practice # 16

Strategy:

Explore Emerging Best Practices in the Area of Electric Vehicle Charging Stations

Description:

As the nation becomes more environmentally conscious, there has been a rise in the ownership and use of electric vehicles. To help support this trend, cities across the nation are looking to provide charging stations in appropriate locations, however this often raises issues of what is appropriate, how does this get incorporated into the utility network, and how can these stations be incorporated into the parking network (on- and off-street).

Action Items for Consideration:

- Identify appropriate number of and locations for charging stations (perhaps priority locations to encourage use of EVs).
- Provide various types of charging stations to enhance options (Levels 1-3).
- Determine a fee schedule or time limit for these spaces (e.g. Salt Lake City allows free parking at all charging stations, although considering implementing a fee for Level 3 stations. All stations are regulated by a 2-hour time limit and must be charging when parked).
- Identify the location and regulations of EV parking with signage.
- Post information on the location and use of EV stations on the City website.

Potential Sub-Strategies for Implementation:

- Identify potential funding sources to help fund EV charging station projects.

- Determine appropriate incentives to encourage use of Eves (e.g. priority parking spaces, reduced rates for EVs, extended time limits, etc.)

Documented Results:

Encourages the use of EVs, which can lower emissions caused by traffic and support other sustainability goals.

Stakeholder Engagement:

This strategy would require extensive outreach with the public, parking users, and business owners.

Applicability/Similarity to Boulder:

EV stations are able to be installed in any community interested and able to do so. This strategy is applicable to Boulder because it supports the City's sustainability initiatives.

Replicability:

This strategy is able to be replicated for the City of Boulder, however, the policies and practices that are implemented would have to be very specific not only to the City but to the corridor the practices are being implemented.

Policy Implications:

Implementation of EV charging stations would require a review, update and adoption of policy changes in regards to how EV stations are implemented, managed, regulated, and maintained.

Cost Implications:

This strategy has the potential to be more expensive because of the need for infrastructure, potential policy changes, coordination efforts, and potential technology related to the strategy.

References:

- City of Salt Lake
- City of Boston
- "Electric Vehicle Infrastructure Implementation by DOE Clean Cities". US Department of Energy
- "Project Get Ready", Rocky Mountain Institute. (2009)
- US Department of Energy, Plug-In Electric Vehicle Handbook for Public Charging Station Hosts
- San Jose Clean Air Parking Program

Best Practice # 17

Strategy:

Automated Parking Garages or Automated Vehicle Storage and Retrieval Systems (AVSRSs)

Description:

Automated parking is the automated storage, or parking, of vehicles with no human intervention. The technology used to do this is typically based on automated warehousing and there are several different technologies used in automated parking today.

From a driver's perspective they simply park their vehicles in a parking module, somewhat similar to pulling into a single garage, and are guided to the correct parking position by sensors via a display sign. The drivers switch off their engines, all vehicle occupants leave the parking module, and the parking module door is closed to secure the module. Once the module is secured the vehicle is removed from the parking module and stored. When drivers return and request their vehicles, their vehicles are returned to a parking module, usually facing the correct direction, ready to be driven away.

Since there is no requirement for ramps, driveways and personnel access to the parking areas, automated parking can typically park twice the number of vehicles in the same volume as conventional parking. Or, conversely, park the same number of vehicles in half the volume.

Some of the potential advantages of automated parking over conventional parking are:

- Reduced construction costs through less excavation, air rights saving and less construction time
- Reduced operating costs through accelerated depreciation, lower ventilation and lighting requirements, lower operator costs and reduced insurance premiums
- Reduced land cost due to smaller footprint
- Added value from the space gained providing more leasable or sellable real estate
- Improved entitlements for developers
- More LEED points available
- Safe and secure parking for drivers and their vehicles
- Less CO2 emissions and more green spaces
- All parking spaces can be ADA compliant

Source: http://automatedparking.com/

Action Items for Consideration:

- Automated garages are becoming much more prevalent and reliable, especially in China and other countries. While only a handful have been constructed in the US, the technological advances combined with the benefits and features noted above begin to make this option more attractive and viable for certain applications.

Documented Results:

Boomerang Parking Systems have developed mechanical parking structures leveraging "robotic devices" combined with a "Tray System" that offers the following benefits:

- Robot lifts only the tray - nothing touches the vehicle
- Rolls on solid concrete decks (new or retrofit)
- Easy to maintain over long lifecycle
- Moves underneath vehicles from any side
- Transports vehicles in any direction

- Rotates vehicles without a turntable
- Lifts payloads up to ~7,000 lbs
- Battery operated

Stakeholder Engagement:

Prior to considering this design option for future public parking facilities, a good deal of public education and stakeholder feedback would be highly recommended.

Applicability/Similarity to Boulder:

This strategy may be most applicable to parking for residential or other developments with constrained sites.

Replicability:

This strategy is able to be replicated for the City of Boulder, however, the right set of site constraints, user mix and land uses would have to come together for this approach to be viable. A key issue remains system through-put at peak demand periods. However, under the right set of circumstances, the financial, operational and energy efficiency characteristic could make this an effective solution.

Policy Implications:

Given the relatively limited implementation of this technology in the US, this could be a politically risky and sensitive strategy. An investment in this cutting edge technology would warrant a robust public dialogue, a stringent due diligence process and potentially a defined policy statement outlining the criteria to be used in the assessment/approval of this option if public funds are to be used.

Cost Implications:

This strategy can be cost effective under the right conditions.

References:

- http://automatedparking.com/
- http://boomerangsystems.com/

Best Practice # 18

Strategy:

Preparing for "Driverless Cars"

Description:

In the "innovations" category, the news is abuzz with talk of "driverless cars". A driverless car, also known as an autonomous car, driver-free car, self-driving car, or robot car is an autonomous vehicle capable of fulfilling the transportation capabilities of a traditional car. As an autonomous vehicle, it is capable of sensing its environment and navigating without human input. Robotic cars exist mainly as prototypes and demonstration systems. As of 2014, the only self-driving vehicles that are commercially available are open-air shuttles for pedestrian zones that operate at 12.5 miles per hour.

Autonomous vehicles sense their surroundings with such techniques as radar, lidar, GPS, and computer vision. Advanced control systems interpret sensory information to identify appropriate navigation paths, as well as obstacles and relevant signage. Some autonomous vehicles update

their maps based on sensory input, allowing the vehicles to keep track of their position even when conditions change or when they enter uncharted environments.

In July 2013 Vislab world premiered BRAiVE, a vehicle that moved autonomously on a mixed traffic route open to public traffic. As of 2013, four U.S. states have passed laws permitting autonomous cars: Nevada, Florida, California, and Michigan. In Europe, cities in Belgium, France, Italy and the UK are planning to operate transport systems for driverless cars, and Germany, the Netherlands, and Spain have allowed testing robotic cars in traffic.

The Google Self-Driving Car is a project by Google that involves developing technology for autonomous cars. The software powering Google's cars is called Google Chauffeur. The project is currently being led by Google engineer Sebastian Thrun, former director of the Stanford Artificial Intelligence Laboratory and co-inventor of Google Street View.

Autonomous Car Parking

There are only a few minutes before your flight check-in closes, or before your train departs, but you now have to spend precious time hunting for a free space at the airport or station car park. Imagine leaving your vehicle at the main entrance and letting the car do the rest on its own. Researchers from Germany, Italy, the UK and Switzerland are working on this, and successful tests took place at Stuttgart airport earlier this year. €5.6 million of EU funding is invested in the system which will be available in the coming years.

A Smartphone App to Leave and Get Back the Car

Drivers will be able to leave their car in front of the car park and use a smartphone app to trigger the parking process. The vehicle will connect with the car park's server and drive itself to the designated space. While in the garage, the car can also be programmed to go to a charging station. Upon returning, the driver uses the same app to summon the car – fully charged and ready to go.

Since GPS satellite signals don't always work inside garages, the scientists have developed a camera-based system based on their expertise in robotics and environment sensing. Safety is at the center of the project: the car is designed to avoid unexpected obstacles.

Dr Furgale believes the same technology could be used to develop autonomous parking systems for electric cars on city streets. "That will be more of a challenge", he says. "But once you have the maps in place, the rest of the technology will come together."

Obviously, this technology is still years away from widespread commercial applications, but then this whole concept was virtually unimaginable just a few years ago.

Action Items for Consideration:

- None at this point; but continue to monitor technological developments.

Documented Results:

None at this point.

Stakeholder Engagement:

None at this point.

Applicability/Similarity to Boulder:

In the future, more and more people will drive electric cars and will switch from one mode of transport to another – creating the need for more and varied parking options at transport hubs.

To prepare for this mobility shift, the V-CHARGE consortium is working on a fully automated parking and charging system for electric cars at public car parks.

"The idea is that we can actually use technology to give people a better mix of public and private transport", explains Dr. Paul Furgale, scientific project manager for V-CHARGE and deputy director of the autonomous systems lab at the Swiss Federal Institute of Technology in Zurich.

Replicability:

This strategy is able to be replicated for the City of Boulder, however, the policies and practices that are implemented would have to be very specific not only to the City but to the corridor the practices are being implemented.

Policy Implications:

None at this point.

Cost Implications:

None at this point.

References:

- http://europa.eu/rapid/press-release_IP-14-894_en.htm
- http://en.wikipedia.org/wiki/Autonomous_car

Parking Enforcement Strategies

Best Practice # 19

Strategy:

Escalating Parking Fine Structures

Description:

Escalated parking fines allow cities to fine more heavily for a second offense, as opposed to a flat fine for each type of offense. Escalating or progressive fine structures are seen as an effective strategy to put the focus on the “real enforcement problem”. This strategy also has the potential to be less punitive to occasional violators and provide a greater opportunity for community education since people won't be as disgruntled toward enforcement and will learn how to properly park from the first offense experience.

When considering parking enforcement and parking fine structures, it is important to consider “What is the real problem we are trying to solve?” The real problem is keeping long-term parkers from parking in what should be short-term parking resources. Therefore, the occasional violator that was having fun shopping and over stayed his or her time limit is not the core problem - we can afford to be more forgiving to these types of violations. The real problem is habitual parking violators who know the rule, but are willing to take the risk of getting a citation because it outweighs cost or inconvenience of parking in a more appropriate location. One

solution to this problem is an escalating fine structure. This approach places an emphasis on repeat offenders, while still remaining friendly to first-time customers and visitors.

Fort Collins, CO has had an escalating fine structure in place for several years. Key elements of this program include:

- The first citation is considered a warning and is viewed as an "educational opportunity.
- First citations are often accompanied by a brochure or other information teaching the violator "how to park legally".
    - A similar program in Cheyenne, WY, adopted more of a "marketing approach". The citation is called a "Howdy Partner" and begins with "You must not be from around these parts..." The brochure goes on to explain how to parking legally, provides information on on-street parking time limits, the location of off-street lots for longer term parking options, etc.
- Initial fine amounts are kept low, but quickly ramp up for repeat offenders.
- An incentive is also provided for the prompt payment of citations. If paid within a 2 week period the fine is stated amount on the citation. If payment is not made within the designated time period the fine amount increases.
- Perhaps the most interesting and innovative aspect of this program is that it has a built-in rolling 180 day timeframe whereby, if the violator has not received another citation, the first citation comes off their record. Eventually, if the violator modifies their behavior, they can get back down to original state and the level of the fine is lowered. This focus on changing bad behavior is what makes this program most effective.

Action Items for Consideration:

- Evaluate the existing fine rates
- Evaluate the types, frequency, and location (if possible) of violations
- Update enforcement technology to enable faster and more streamlined collection of violation information (e.g. license plate recognition technology)
- Balance the appropriate amount of parking. Goals include not requiring too much parking that consumes excess land and creating visual blight, but also avoid spillover impacts associated with requiring too little parking.
- Update parking design standards including the placement of car charging stations.

Potential Sub-Strategies for Implementation:

- Review various enforcement technologies that would streamline and improve enforcement capabilities.

Documented Results:

A graduated fine structure that fines more heavily for repeat offenders has the effect of deterring people from making the same parking violation repeatedly. In addition, this type of structure, because it is more punitive towards repeat offenders, tends to educate parkers on the proper way to park.

Stakeholder Engagement:

Changes to the fine structure should be communicated to the public in advance. Communication materials can be used to educate the public on the proper ways to park.

Applicability/Similarity to Boulder:

This strategy can be applied to the City of Boulder through a re-evaluation of their fine structure. An escalating fine structure supports the City's goal managing the existing parking supply more effectively and efficiently. A fine structure that can promote compliance with parking regulations enables the parking system to work more effectively.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

This strategy will require the City to reconsider their parking fine structure and update new policies regarding the fine structure.

Cost Implications:

This strategy is relatively easy to implement since it does not require large investments in new technology or other infrastructure. It is a review of their rate structure for parking violations.

References:

- "Graduated Parking Fines", Donald Shoup. Los Angeles Times
- City of Claremont

Best Practice # 20

Strategy:

Develop an Enhanced Parking Enforcement Operations and Training Manual

Description:

Building on documented best practices from around the country, create a handbook/manual that documents current policies, procedures and practices and that is geared to train and support Parking Enforcement Officers in the effective and efficient performance of their required duties.

Action Items for Consideration:

- Document and assess existing policies and procedures
- Document departmental mission and key goals
- Define key duties and responsibilities by job class
- Define standards of conduct
- Define regulation regarding vehicle usage, radio protocols, enforcement systems, etc.

Potential Sub-Strategies for Implementation:

- Develop for use both as an operational manual and a training document.

Documented Results:

- Improves documentation of program operational policies and procedures
- Provides an effective tool for staff training and development
- Provides improved support for performance documentation and human resources issues if needed.

Stakeholder Engagement:

Low – This is primarily an internal document, however, having well defined policies and procedures can help in educating the general public as needed.

Applicability/Similarity to Boulder:

This strategy can easily be applied to the City of Boulder. It is important for any enforcement agency to have well-defined rules and regulations in a format that can updated annually.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its general nature.

Policy Implications:

This strategy will require the City to review their parking enforcement policies and procedures and a regular basis. Any new policies, practices and/or technology advances should be updated in the manual. Significant changes or deviations from past policies should be highlighted and sent to program administrators for review. Significant changes should be approved by the appropriate governing boards.

Cost Implications:

This strategy is relatively easy to implement since it does not require large investments in new technology or other infrastructure. It is a review of their rate structure for parking violations.

References:

- Kimley-Horn has provided a sample Parking Enforcement Handbook as a starting point for the development of document specific to the City's program.

Best Practice # 21

Strategy:

Develop a parking enforcement program audit check-list for citation revenue, receivables management and permit operations

Description:

The development of a detailed audit checklist tool for assessing a municipal parking enforcement program is an identified program best practice. The goal is the establishment of audit standards and a process for reviewing and assessing compliance with Boulder specific rules, regulations and policies.

Action Items for Consideration:

- Ordering and Control of Citation Stock
- Control and Processing of Issued Citations
- Pursuit of Delinquent Citations
- Monitoring and Auditing of Parking Permit Operations

Potential Sub-Strategies for Implementation:

- Review various enforcement technologies as they impact program implementation and auditing.

Documented Results:

Development of an enforcement program audit checklist can provide an important quality control tool for assessing the detailed functions of a municipal parking enforcement program. Through the development of audit standards, auditors and administrators can note whether or not the program complies with established best practices or if the result is unclear.

Stakeholder Engagement:

Low – This is primarily an internal document, however, having well defined policies and procedures can help in educating the general public as needed.

Applicability/Similarity to Boulder:

This strategy can easily be applied to the City of Boulder. It is important for any enforcement agency to have well-defined program auditing tools and standards that can updated annually or as new technology is implemented.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

None. This practice is strictly an internal process improvement tool.

Cost Implications:

Low.

References:

- Kimley-Horn has provided a draft document for the City's review. This tool was developed by evaluating several municipal parking enforcement programs. City staff is encouraged to review and amend specific elements of this tool to ensure that Boulder specific rules, regulations and policies are incorporated to the greatest degree possible.

Pricing Strategies

Best Practice # 22

Strategy:

Performance-Based or Variable Pricing

Description:

Performance-based pricing programs structure their rates based on the parking demands of the area. Locations with greater demands will have a higher rate, whereas locations with less demand will have a lower rate. The intent is to help distribute the high demands experienced into areas with lower demands to balance the system and create more availability. The intent is also to encourage turnover in areas with high demands to create more availability along the curb. Rates can be changed as frequently as the City wishes to change and technology allows. Cities like Seattle evaluate and potentially change their rates on an annual basis, whereas Los Angeles changes its rates every 4-6 weeks.

Because of the amount of interest and activity nationally around this topic a separate whitepaper on this topic has been provided. The paper covers the following programs:

- Primary Programs Reviewed
  i. SFPark
  ii. LA Express Park
  iii. Washington DC Pilot Programs
  iv. NYC ParkSmart

- Secondary Programs Reviewed
  i. Albany, NY
  ii. City of Manchester, NH
  iii. Winnipeg, Manitoba, Canada
  iv. City of Berkeley Value-Priced Parking and Transit Program
  v. Redwood City, CA

Specific staff comments and questions related to this document are in the process of being addressed.

Action Items for Consideration:

- Conduct an occupancy and turnover counts of on-street parking spaces to determine locations of high and low demands (occupancy by block-face, time of day, and day of the week).
- Evaluate occupancy data, rates, time limits, and technology capabilities to identify appropriate ways to adjust the parking rates.
- Use all this information to determine the right price to obtain ~85% occupancy (an industry standard for optimal parking occupancy). The City may have to try a few pricing iterations to find the right level of pricing that helps to balance demands and improves turnover.

Potential Sub-Strategies for Implementation:

- Adjust parking rates appropriately to balance the parking demands throughout the system.
- Determine an appropriate frequency to review and adjust the rates. This may be dependent on the type of parking technology available and its capabilities (e.g. parking meters with sensors can collect real-time parking availability and relay that information and enable the City to adjust prices throughout the day based on the changing demands).
- Install new signage that clearly states the pricing rates and regulations.

Documented Results:

Results have shown that performance-based pricing encourages people to park in areas with more availability (lower rate) and improves turnover in areas with higher demands. Another result could be an increase in revenue. Not only because some rates may increase, but also because of increased turnover (more people paying meters) and increased compliance (because people may opt to park in areas with lower rates so they can park longer instead of parking illegally).

Stakeholder Engagement:

Because this strategy deals with rate adjustments for on-street parking, it should be communicated with the public openly and in advance of changes. It is critical that they understand the new system to prevent public pushback, to encourage proper use of parking, and educate the public on the intent of the change so that the changes have the greatest impact. Additionally, the public should be involved so they have an opportunity to provide their opinions on what is or isn't working and what their preferences are. The more the public and other community stakeholders are involved, the more successful the program will be. Additionally, communications should be handled through various media (websites, newspapers, social media, radio, etc.)

Applicability/Similarity to Boulder:

This strategy speaks directly to Boulder's goal of managing the existing parking supply more effectively and efficiently. The City is already using pay station meter technology and pay-by-cell to optimize payment options. These technologies could be leveraged or optimized to implement a performance-based pricing structure. However, this strategy might require a paradigm shift in how the City manages parking and some back-end management adjustments to allow the City to collect and analyze meter data in a way that is conducive to setting prices based on demands.

Replicability:

This strategy is able to be replicated for the City of Boulder, however, the technology currently in use may have to be modified slightly to allow for this type of pricing structure.

Policy Implications:

This strategy will require the City to reconsider their parking rate structure and update new policies regarding the rate structure.

Cost Implications:

Because the City already has more advanced meter technology, the investment in technology may not be substantial. However, there may be costs with expanding the use of the technology and setting up programs on the back-end of the meter data collected in order to analyze parking conditions and change rates appropriately.

References:

- City of Seattle, Department of Transportation
- City of Seattle Performance-Based Parking Pricing Study (2011)
- SFPark Pilot Project Evaluation, SFMTA (2014)
- Washington, D.C. District Department of Transportation. Performance-Based Parking Pilots
- LA Express Park
- Redwood City, CA

Best Practice # 23

Strategy:

Progressive On-Street Parking Pricing

Description:

Rates in a progressive pricing structure are determined by the length of time a person remains parked. Instead of a flat rate per hour (e.g. $1 per hour with a 2-hour time limit), rates in a progressive pricing program elevate the longer a vehicle is parked. For instance, the first hour might be $1, but the second hour may be $2, and so on. The intent is to provide flexibility, by allowing those who want to park longer to be able to do so as long as they pay, while also creating more availability. The elevated rate structure deters people from parking long periods of time, thus creating more availability.

Action Items for Consideration:

- Conduct an occupancy and turnover counts of on-street parking spaces to determine locations of high and low demands (occupancy by block-face, time of day, and day of the week).
- Evaluate occupancy data, rates, time limits, and technology capabilities to identify appropriate ways to adjust the parking rates.
- Use all this information to determine the right price to obtain ~85% occupancy (an industry standard for optimal parking occupancy). The City may have to try a few pricing iterations to find the right level of pricing that helps to balance demands and improves turnover.

Potential Sub-Strategies for Implementation:

- Adjust parking rates appropriately to balance the parking demands throughout the system.
- Install new signage that clearly states the pricing rates and regulations.

Documented Results:

Results have shown that progressive pricing structures encourage turnover of vehicles due to the graduated rate structure (people don't want to have to pay more so they don't park for as long). This strategy is effective in managing the long-term parkers that can abuse a parking system by occupying priority spaces (spaces near destinations) for long periods of time (typically an issue seen with employees) and leaving no available parking for customers. The progressive rate structure allows people to park for as long as they want, however, the longer they park the higher the rate to park, and people are disinclined to continue to pay high fees for parking unless necessary. Another result is a potential increase in revenues. Not only because of the increase in rates for long-term parkers, but also because of increased turnover (more people paying the meters).

Stakeholder Engagement:

Because this strategy deals with rate adjustments for on-street parking, it should be communicated with the public openly and in advance of changes. It is critical that they understand the new system to prevent public pushback, to encourage proper use of parking, and educate the public on the intent of the change so that the changes have the greatest impact. Additionally, the public should be involved so they have an opportunity to provide their

opinions on what is or isn't working and what their preferences are. The more the public and other community stakeholders are involved, the more successful the program will be. Additionally, communications should be handled through various media (websites, newspapers, social media, radio, etc.)

Applicability/Similarity to Boulder:

This strategy speaks directly to Boulder's goal of managing the existing parking supply more effectively and efficiently. The City is already using pay station meter technology and pay-by-cell to optimize payment options. These technologies could be leveraged or optimized to implement a progressive pricing structure. However, this strategy might require a paradigm shift in how the City manages parking and some back-end management adjustments to allow the City to collect and analyze meter data so they can gauge how the progressive price structure is working (e.g. is it encouraging turnover? do the rates need to be adjusted higher or lower and during which hours of stay?).

Replicability:

This strategy is able to be replicated for the City of Boulder, however, the technology currently in use may have to be modified slightly to allow for this type of pricing structure.

Policy Implications:

This strategy will require the City to reconsider their parking rate structure and update new policies regarding the rate structure.

Cost Implications:

Because the City already has more advanced meter technology, the investment in technology may not be substantial. However, there may be costs with expanding the use of the technology and setting up programs on the back-end of the meter data collected in order to analyze parking conditions and change rates appropriately.

References:

- Albany Parking Authority
- "Implementing On-Street Market Based Rates", Presentation to IPI by Executive Director Albany Parking Authority (2012)
- Berkeley, CA (Elmwood District)

Best Practice # 24

Strategy:

Parking Taxes

Description:

There are a variety of types of parking taxes. Commercial parking taxes are a special tax on parking rental transactions. Per-space parking levies are a special property tax applied to parking facilities. Commercial parking taxes discourage the pricing of parking and concentrate impacts in a few areas. Per space levies distribute cost burdens more broadly, encourage property owners to manage parking supply more efficiently, and reduce sprawl. Although per-space levies are more challenging to implement they tend to support more strategic planning objectives.

Many experts advocate various types of transportation pricing reforms, including cost-based fees and taxes for the use of roads and parking facilities ("Market Reforms," VTPI, 2005). Such reforms can provide double dividends by raising revenues and helping to achieve other planning objectives such as reducing traffic congestion, air pollution and sprawl.

Vehicle parking is particularly appropriate for reform (Shoup, 2005). Current parking planning practices tend to favor generous parking supply and minimal parking prices, which have unintended and undesirable consequences: they increase development costs, reduce housing affordability, cause dispersed land use patterns (commonly called sprawl), and increase automobile travel which exacerbates various problems including traffic congestion, roadway costs, crashes and pollution emissions. As a result, many professional organizations and planners recommend parking planning and management reforms (Litman, 2006a).

One such reform is to tax parking activities and facilities. Parking taxes can raise funds and help achieve various planning objectives, including more compact development and increased use of alternative modes (Feitelson and Rotem, 2004). Because excessive parking supply has so many negative impacts such taxes can provide significant benefits, particularly in growing urban areas where problems are greatest.

There are also practical reasons to tax parking. Such taxes are an appropriate source of revenue for local governments and public entities such as port districts and business improvement associations; they impose costs on property owners and motorists in specific areas and so can be considered a fair way to finance local transport services.

Types of Parking Taxes:

- Commercial Parking Taxes
    - Many jurisdictions impose a special sales tax on commercial parking transactions, called an ad valorem tax.

- Per Space or Area Levies
    - Some jurisdictions apply special taxes (called a levy) on parking facilities, based either on the number of spaces or their surface area. Such taxes can be structured to support specific planning objectives, such as applying a levy only on unpriced parking, to encourage property owners to price parking.

Action Items for Consideration:

- The tax base should be broad and well defined. A broad tax base spreads the financial burden and does not give certain groups a competitive advantage. For example, it is most equitable to tax publicly owned as well as private parking facilities.
- Before imposing special parking taxes, local governments should increase their own parking prices to market rates. Commercial operators tend to be more accepting of a parking tax if governments are already maximizing income from other parking-related revenue sources, such as meters and enforcement of parking regulations.
- Taxes and fees should be structured to avoid undesirable land use, travel or economic impacts, such as increased sprawl or reduced downtown competitiveness.
- Parking tax reforms should be part of overall parking and mobility management programs and coordinated between jurisdictions in a region.
- Exemptions and discounts should be well defined and audited to insure they apply as intended.

Potential Sub-Strategies for Implementation:

- If possible, require parking suppliers to pass taxes on to motorists, rather than absorb it.
- Enforcement should be fair, friendly and effective.
- Taxes should be structured for efficient compliance and auditing. When implementing a commercial parking tax, operators should be required to use a ticketing system that provides receipts and creates secure transaction records suitable for auditing.
- Establish an evaluation program, with before-and-after analysis, to determine the taxes impacts on parking supply and pricing, economic activity, traffic, and spillover problems.

Documented Results:

- Commercial Parking Taxes
    - The City of San Francisco imposes a 25% tax on all commercial off-street, nonresidential parking transactions ("any rent or charge required to be paid by the user or occupant of a parking space"). Revenues are divided between the city's general revenue, public transportation and senior citizen funds.
    - The City of Pittsburgh imposes a 31% parking tax (increased to 50% in 2005), the highest rate in the U.S. Parking operators indicated that they had been able to pass the majority of the tax onto the users, but had absorbed some of the tax themselves.
- Per Space or Area Levies
    - In Sydney, a Parking Space Levy of AU$800 annual per stall is currently applied to parking in the central business district (CBD), and AU$400 per stall at other business districts. The levy applies to all privately owned, non-residential, off-street parking. It is prorated for parking facilities that are only used occasionally, such as church parking lots; property owners must maintain daily records indicating how often such space is used. The levy raises more than AU$40 million annually, which is dedicated to transportation projects and cannot be used for operating expenses.
    - Vancouver, British Columbia, TransLink, the Vancouver, British Columbia regional transportation authority which builds and operates roads, transit facilities, bicycle facilities and other transport services, implemented a Parking Site Tax in 2006. The initial rate is $1.02 annually per square meter of non-residential parking facility, typically $25-$40 per space. Assessment, collection and enforcement of the tax utilizes the existing property tax framework, operated by BC Assessment, a provincial agency. The agency used aerial photos, digital mapping, municipal records and site visits to develop an inventory of non-residential parking facilities in the region. Exemptions include:
      • On-street parking.
      • Most buildings exempt from general property taxes (schools, churches, synagogues, etc.).
      • Parking facilities used for vehicle retail and rental business inventory storage, impounded vehicles, trailers of tractor-trailer units, vehicle servicing and fueling.
      • Parking facilities owned by TransLink (including Park & Ride lots).
      • Ferry loading queuing

Stakeholder Engagement:

Stakeholders, such as commercial parking operators, should be consulted to insure that regulations, administrative procedures, and enforcement policies are efficient and fair.

Applicability/Similarity to Boulder:

Leveraging a parking tax to support other multi-modal alternatives seems very well aligned with Boulder's overall transportation and climate commitment goals. However, taxes are never popular and significant public process would be required.

Replicability:

This strategy can be applied in a number of ways to be tailored to the specific goals of community. While the concept can be replicated, the key issues will be community acceptance and approval. This tactic is likely the most politically sensitive of all the best practice options, but it also has the potential to contribute positively to a wide range of community goals.

Policy Implications:

This strategy will have significant policy and political implications. Defining the specific type of tax, the reasons for the tax, the level of taxation and how the potential tax revenues would be used will all be key policy decisions if this strategy is advanced.

Cost Implications:

Costs for this strategy would involve investing significant council and administrative time to develop and implement the campaign to achieve the support needed to pass the legislation authorizing the new tax. Additional costs would be incurred to implement and collect the tax revenues. Ultimately, however, the tax would generate significant revenues to off-set implementation costs.

References:

- Parking Taxes, Evaluating Options and Impacts - Todd Litman, Victoria Transport Policy Institute

Parking Code Strategies

Best Practice # 25

Strategy:

Review and update of City adopted parking codes including parking generation rates

Description:

Identify the existing parking requirements within the City and identify potential parking code strategies to provide updated standards consistent with current and projected development trends, opportunities for parking reductions, parking placement while increasing the availability (usability) of land.

There is generally an economic disadvantage to providing too much parking (underutilization of properties, inefficient land use patterns) as there is with too little parking (actual and/or perceived lack of safe, convenient parking). Providing optimal parking that is convenient, safe and efficiently utilizes valuable land can enhance economic vitality and livability.

Action Items for Consideration:

- Review existing Parking Standards (required parking rates; minimum and maximum)
- Review of shared parking provisions including off-site and on-street parking.
- Review bicycle parking requirements.
- Review the City's existing land use and zoning standards (uses).
- Identify areas for Transit Oriented Development (TOD), Land Use and Parking Overlays.

Potential Sub-Strategies for Implementation:

- Amend City parking standards from zoning based to land use based.
- Provide simplified, generalized listing of land use categories (broad based) versus use specific standard; include review of minimum and maximum parking standards.
- Provide development incentives for targeted parking standards and programs (e.g., designating a percentage of provided parking to public parking needs)(incentivized zoning and/or performance zoning standards).
- Simplification of the City's current code (ease of understanding and application of standards).
- Evaluate the placement and connectivity of parking spaces/areas to buildings and facilities.

Documented Results:

- Efficient use of developable land
- Improved application of parking standards
- Reduced variance and/or modification requests for parking reductions
- Code reflects current development practices and uses
- Encourages use of transit and alternative transportation measures
- Reduced storm water needs through reduced surface parking and/or implementation of LID measures
- Require appropriate amount of parking with goals of not requiring too much and consuming land, and creating visual blight, but also avoid spillover impacts associated with requiring too little parking.

Stakeholder Engagement:

This strategy would require outreach with the public, including targeted stakeholders including large land holdings, major employers and community/educational services, to identify future development, opinions on existing parking and other customer comments.

Applicability/Similarity to Boulder:

This strategy is applicable to Boulder because it involves updating the City's parking code which has typically had minor or targeted amendments as compared to a complete parking code review. It can and should be tailored to meet the specific needs of the Boulder community. This strategy supports City goals of economic development, preserving and improving community character, and improving the City's transportation network.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

To implement a change in the City's parking codes, will require the City to update their policies.

Cost Implications:

This strategy involves effectively leveraging already available community resources. The main cost of implementation might be in the stakeholder outreach, education, and communication, as well as staff resources (time).

References:

- City of Fort Collins, CO
- City of Arlington, VA (MobilityLab)
- City of Ann Arbor, MI
- City of Largo, FL
- Eugene, OR
- Portland, OR
- Madison, WI

TDM Strategies

Best Practice # 26

Strategy:

Explore "First and Last Mile Strategies" as Part of an Overall Mobility Management Strategy

Description:

First and last mile strategies are typically designed to help transit users access transit or final destinations. Strategies vary widely from infrastructure to policy to education. Successful programs will improve the user experience by supporting intuitive, safe and recognizable routes to and from transit stations/stops. There are no set standards but rather a menu of options. Common improvements include: intersection crossing improvements (crosswalks, bulb outs, raised crossings, scramble crossings, and mid-block crossings), signage (way finding, motor vehicle signalization/signage, real-time transit signage), pedestrian prioritized signal timing, lighting and streetscape improvements (street furniture and trees/landscaping), freeway underpass/overpass improvements, enhanced transit stops, sidewalks (completing gaps, surface improvements, widening, short cuts), using street space for bicycle and transit lanes, providing priority parking or waiting areas for "green" transportation, car and bike share stations/parking, carpool and vanpool parking, bike parking, and trail/off street path access.

Action Items for Consideration:

Consider reviewing efforts by the city of Los Angeles, which uses GIS mapping to determine missing pieces in the overall travel system. Maps of existing transit stops show 1/4- and 1/2-mile radii as well as existing transportation networks such as roads, transit routes, bus routes, sidewalks, accident locations, land use, and other pertinent layers. The layers have been used to determine what infrastructure improvements to utilize and how best to make transit stops easy to reach. If a strategic first and last mile program is pursued, a funding source would need to be identified.

Documented Results:

Initial program review did not yield information on specific outcomes of first and last mile strategies in terms of their impact on transit ridership and community mobility. Impacts would be likely to vary significantly depending on the strategy implemented. For example, shuttle services combined with subsidized transit passes could have a significant impact on transit ridership whereas installation of short lengths of sidewalk may have relatively limited impacts.

Stakeholder Engagement:

Integrate with larger community planning and transportation/transit development initiatives. Engage the public as well as private development sector to promote common goals and benefits of first and last mile strategies.

Applicability/Similarity to Boulder:

First and last mile strategies tie in with Boulder's high bicycle and transit ridership and would be helpful in capturing additional transit riders. The strategies are important to encourage transit, bicycle, and pedestrian commuting. The infrastructure, policies, and educational components needed for a complete system are important throughout the city, not only near transit stations.

Replicability:

Examples of complete streets (pedestrian, bicycle, transit) policies and infrastructure can be found nationwide and internationally. Most strategies should be easily replicated in Boulder.

Policy Implications:

First and last mile strategies support broader policy directives related to clean air, health, and economic sustainability. By improving transit access and effectiveness, more people will likely opt to use transit, which in turn will reduce vehicle miles traveled and greenhouse gas emissions, integrate physical activity into daily commute patterns, and improve economic vitality by connecting people locally and to regional attractions/jobs.

Cost Implications:

Vary widely depending on measures implemented. Infrastructure improvements can be expensive while signage and educational efforts can be relatively inexpensive.

References:

- "First Last Mile Strategic Plan: Path Planning Guidelines": Los Angeles County Metropolitan Transportation Authority - Metro, 2013
- Pedestrian and Bicycle Information Center
- "Intermodal Transportation Planning and Development: A closer look at linking transit to bicycling and walking": Pedestrian and Bicycle Information Center Case Study for Tucson, Arizona.

Best Practice # 27

Strategy:

TDM Districts and Trip Reduction Ordinances or Trip Generation Allowance

Description:

TDM districts typically use overlay zones or other zoning requirements to encourage or enforce more stringent development regulations specific to TDM. The regulations can require employers and property owners to participate in TDM programs, implement TDM programs, and/or fund TDM programs. Funding is often collected through a property tax or its equivalent.

Action Items for Consideration:

Consider reviewing the following: St Louis has two overlay zones created specifically for TDM measures. Each of these zones have requirements for certain developments to provide various TDM measures such as a plan and outlined strategies. Furthermore, developments within these districts must pay a fee to help manage the district and TDM operations. Minneapolis has a pedestrian orientated overlay district. Within this district are two areas that require TDM plans for developments of certain sizes. Furthermore, all developments within the district must comply with requirements for bicycle parking and pedestrian infrastructure to facilitate pedestrian access, safety and circulation. San Mateo has a TOD district that promotes TOD development including enhanced pedestrian, bicycle, and transit facilities. Additionally, the TOD district requires developments of a certain size to create TDM programs that must include both short- and long-term trip and parking reduction goals. The TOD district details specific alternatives for TDM implementation, including transit pass subsidies, bicycle parking, and parking cash-out programs.

Documented Results:

Little data has been collected on the vehicle trip and parking reduction impacts associated with TDM districts. It can be difficult to separate TDM impacts from external variables such as walkability, level of transit service, density, etc.

Stakeholder Engagement:

Integrate with larger community planning and transportation/transit development initiatives to develop areas and methods to implement TDM strategies. Engage the public as well as private development sector to promote common goals.

Applicability/Similarity to Boulder:

Determining whether to create TDM districts, TMA's, zoning overlay districts, or other unique approaches will require Boulder to analyze current and proposed TDM implementation goals and outcomes.

Replicability:

There are several unique examples of how TDM measures are enforced in specific areas, as outlined. Additionally, Boulder Junction offers an example of a local TDM district that can be replicated.

Policy Implications:

Creating TDM districts, TMA zoning overlay districts, or other unique approaches will require different policy approaches and regulation. However, enhancing TDM strategies, outcome, and enforcement is a common policy thread within these.

Cost Implications:

Low to medium depending on city staff time used to develop new policies and monitor compliance.

References:

- City of St Louis Zoning Code. Article 4, Zoning Districts, Division 9 Travel Demand Management District, Section 36-321.
- City of Minneapolis Code of Ordinances. Chapter 551 of the Minneapolis Code of Ordinances relating to Zoning Code: Overlay Districts, Article II: Pedestrian Oriented PO Overlay District.
- City of San Mateo Zoning Code. 27.90 TOD District - Transit Oriented Development.

Best Practice # 28

Strategy:

Explore the Concept of Increasing Availability by Decreasing Demand

Description:

This strategy focuses on what can be done to encourage employers and existing property owners to implement TDM programs. This is separate from TDM regulations for new development, a best practice area that has already been reviewed in greater detail by UrbanTrans and Kimley-Horn. Employers and property owners can be encouraged or mandated to implement or participate in TDM programs. Incentives and requirements can be city-wide or geographically limited. California has been a leader in the implementation of mandates that require employers to implement or participate in TDM programs. Many other communities make TDM services available for free to employers to encourage them to implement TDM programs. This is already done in Boulder and is a common practice within the Denver region.

Action Items for Consideration:

Consider reviewing the following: The Bay Area Air Quality Management District recently passed Regulation 14, Rule 1, which requires employers with 50 or more employees to provide one of three options to employees: (1) pre-tax transit and vanpool fare purchases, (2) employer-paid transit and vanpool fares up to $75, or (3) employer provided transit service. Maryland and Minnesota both offer tax incentives to encourage employers to subsidize transit costs. The Maryland tax credit is worth up to $50 per employee per month. The Minnesota tax credit is worth up to 30% of the employer's expenditure on bus passes and vanpool fares.

Documented Results:

The Bay Area program is launching this month and no specific outcomes are yet known. The program has resulted in a significant increase in employer participation in the regional 511 program. No data were immediately available on the impacts of incentives on employer participation and funding of TDM programs. Data are available regarding the impacts of employer subsidized transit passes and TDM programs on travel choice, but data have not been collected regarding the impacts of government programs/mandates on employer uptake/funding of TDM programs.

Stakeholder Engagement:
Implementation of policies would require close coordination with employers and property owners. Financial incentives will require the identification of city funding sources or lobbying efforts to encourage state action.

Applicability/Similarity to Boulder:

The identified best practices are not directly applicable to Boulder. Implementation of similar practices would likely require action by the state or region. The free provision of TDM services to employers is already available. The Boulder Carbon Tax could be a funding source for subsidies to employers.

Replicability:

With sufficient local, regional, and state support all examples could be implemented.

Policy Implications:

Depending on the action taken, significant policy changes could be required.

Cost Implications:

Current TDM programs could be expanded at a low cost depending on the degree of expansion. The provision of subsidies to encourage employer TDM programs could be expensive.

References:

- TDM and Telework Financial Incentives
- Regulation 14 Rule 1 Guidance

Best Practice # 29

Strategy:

Local Government's Role in Promoting Car Share

Description:

Car sharing is a model of car rental where people rent cars for short periods of time, often by the hour. Car share is typically most successful in high-density residential and commercial locations. There are an estimated 800,000 car share members in the United States. Cities have promoted car share through informal partnerships, marketing assistance, administrative assistance, the provision of parking, and grant/funding support.

Action Items for Consideration:

The following programs could be reviewed for additional information: Brookline and Cambridge, MA both provide marketing support; San Francisco requires some developers to make car share spaces available; Denver provides incentives to developers to encourage the provision of private parking spaces; Denver and Hoboken have innovative programs to provide on-street parking spaces to car share providers; Arlington County, VA encourages car share through its TDM program and the inclusion of parking spaces on its transportation maps.

Documented Results:

Car Share programs have been found to reduce car ownership and parking demand. They can also serve as a “last-mile solution”. One car share vehicle can typically remove four to five vehicles from the road. Car share's impacts on vehicle miles traveled are less clear.

Stakeholder Engagement:

Local government, car share operators, and communities must all work together when crafting car share policies, especially policies that provide parking locations in the public right of way.

Applicability/Similarity to Boulder:

Car share is applicable to Boulder because of its high pedestrian and transit use as well as the city's goals for environmental stewardship and traffic reduction. Successful examples already exist. Any government efforts would be likely to increase utilization and meet success.

Replicability:

Many examples of government agencies promoting car share can be implemented in Boulder. Examples that are linked to zoning would need to be reviewed to determine their legality in Boulder and Colorado.

Policy Implications:

Depending on the strategies implemented, parking policies and regulations will need to be updated. Additionally, certain policies may require updates to the zoning code.

Cost Implications:

Low to High depending on funding and support provided by the City.

References:

- "TCRP Report 108: Car Sharing Where and How it Succeeds": Published in Washington DC by the Federal Transit Administration and the Transportation Research Board, 2005.
- "Contemporary Approaches to Parking Pricing: A Primer": U.S. Department of Transportation Federal Highway Administration 2012
- City and County of Denver

Best Practice # 30

Strategy:

Parking Cash-Out Programs

Description:

Parking cash out is a program that allows employees to opt out of having a parking space and instead receive compensation. The employer who owns or leases a space pays the employee not to park. The employee can then use this money to purchase transit fares or it can be kept as cash. An update to the Internal Revenue Code in 1998 supports parking cash out programs by allowing employers to offer commuters the option of taxable cash instead of tax-exempt subsidies for parking, transit, or vanpool. The federal tax code states "for 2014, the monthly limit on the amount that may be excluded from an employee’s income for qualified parking benefits is $250. The combined monthly limit for transit passes and vanpooling expenses for 2014 is $130".

Employer costs are likely to increase slightly with cash out programs as employers must pay employment taxes on the cash employees receive if they do not use their payments for tax-deductible transportation expenses. Administrative costs will also be incurred but could potentially be offset by reductions in travel allowances or parking subsidies (i.e., charging employees who decline a cash-out offer a small fee for parking).

Action Items for Consideration:

Additional research could be conducted on existing cash-out programs. The states of California and Rhode Island have laws that require certain employers to offer cash-out programs. Both state laws effect employers with 50 or more employees. California's law is applicable only to leased parking spaces and does not affect employers that own their parking. Rhode Islands' law does not require a cash payment but rather a free transit pass in lieu of a parking space.

Documented Results:

Analysis by Shoup found that parking cash-out programs in California reduced drive-alone trips from 76 percent to 63 percent of total commute trips at surveyed employers. A model created by De Borger and Wuyts using Belgian data to evaluate cash out estimated that cash out would reduce car commuting by 8.5 percent.

Stakeholder Engagement:

Work with city and business leaders to develop a policy that supports traffic and vehicle reduction goals but does not place too much burden on employers. Identify the administrative burden that could be placed on employers and develop programs to help overcome those burdens.

Applicability/Similarity to Boulder:

Parking cash out programs support Boulders alternative transportation system by encouraging employees to utilize transit and bicycling rather than driving.

Replicability:

Existing laws that require cash out are at the state level making them less replicable in Boulder. However, opportunities likely exist to implement programs to encourage rather than mandate cash out. Additional research would be necessary to determine the legality of requiring cash out.

Policy Implications:

Parking cash out supports policies of traffic and vehicle reduction as well as goals to increase transit and bicycle ridership. Excessive burdens to employers must be considered however.

Cost Implications:

Low to medium depending on enforcement and policy decisions.

References:

- "Contemporary Approaches to Parking Pricing: A Primer": U.S. Department of Transportation Federal Highway Administration 2012
- "Section 132(f) Qualified Transportation Fringe Benefit – Commuter Parking and Transit Benefit Plan Document"

- City of Santa Monica
- "Congress Okays Cash Out": Donald Shoup. The Institute of Transportation Studies at the University of California, Los Angeles, CA. 1998
- "California's Parking Cash Out Law" California Environmental Protection Agency
- State of Rhode Island Statute 37-5-7.1

Best Practice # 31

Strategy:

Adopt a Research and Educational Mission Relative to Promote All Modes of Transportation

Description:

Using the "Mobility Lab" model as guide, develop a robust TDM outreach, research and educational program to promote and continually reinforce multi-modal options. "Mobility Lab" is a very impressive component of the Arlington County Virginia Commuter Services program. It is perhaps the most advanced and comprehensive TDM program in the country and one which the City of Boulder could emulate in a number of ways. A review of the Mobility Lab program follows.

Overview:

- Mobility Lab is a leading U.S. voice of "transportation demand management" – moving people instead of cars – and works to create a shared national voice with clear calls to action from TDM agencies across the country.
- One of Mobility Lab's primary roles as a start-up think tank is to measure the impacts of TDM services in Arlington County, Virginia – frequently cited as a leader in the industry.
- Mobility Lab believes – through storytelling, original research, events, and strategic partnerships – we can effectively gain funding and prestige for a traditionally underfunded and little-known industry.
- TDM helps people use transit, ridesharing, walking, biking, and telework. It is cost-effective in guiding the design of our transportation and physical infrastructure so that alternatives to driving are naturally encouraged and our systems are better balanced.
- TDM thus underlies most of the important new initiatives of today: transit-oriented development, complete streets, walkable activity centers, livability and sustainability initiatives, and integrated corridor management.

Mission:

Mobility Lab nurtures innovations to a fundamental requirement of human life: transportation. It is a place of collaboration, education, and continuous improvement for moving people in more healthy, efficient, and sustainable ways.

Action Items for Consideration:

Mobility Lab is based on three pillars. Research. Collaboration. Communication:

- Research about how Arlington's transit-oriented development works. Mobility Lab is embedded within the living laboratory that is Arlington County Commuter Services. It

produces and disseminates cutting-edge original transportation research that details why Arlington's roads are amazingly free of the traffic that clogs so many urban areas.

- Collaboration to bring about innovation. Mobility Lab functions as a convener and engager of top minds on transportation in the D.C. region, nationally, and internationally. They regularly hold online collaborations and events like Hack Days, Transportation Camp, and educational symposiums on topics ranging from sustainability to real-estate development and beyond.
- Communication about best practices. Mobility Lab is a leading online source for how communities can improve the lives of its citizens by making better transportation choices than the ones our society has been trained to embrace. Mobility Lab shares research, builds databases of readable, entertaining, and usable best practices.

More information is available at: http://mobilitylab.org/about-us/#sthash.6BZ2aoni.dpuf.

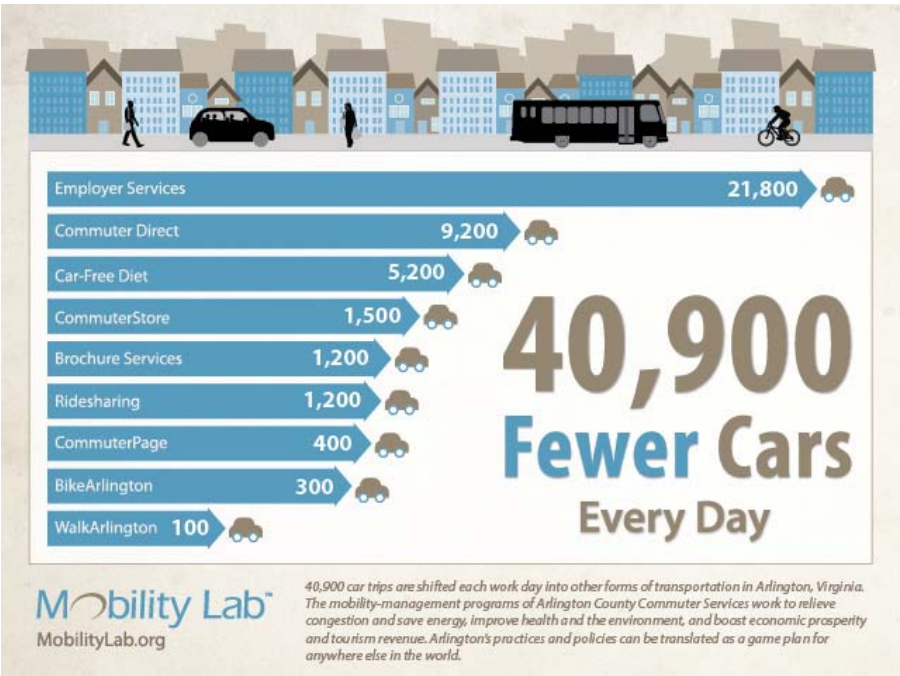
Documented Results:

One of Mobility Lab's primary roles is to measure the impacts of Arlington County Commuter Services, showing that what we do works, and can be translated as a game plan for anywhere else in the world.

ACCS produces annual reports that provide further information about their program results. Links to several of these annual reports are provided below:

Annual Reports

- ACCS Making an Impact 2012
- ACCS Making an Impact 2011
- ACCS Making an Impact 2010
- ACCS Making an Impact 2009
- ACCS Making an Impact 2008
- ACCS Annual Report 2005



Mobility Lab tracks the actions of ACCS programs. Here are the latest numbers, updated in July 2014:
- See more at:

http://mobilitylab.org/about-us/#sthash.6BZ2aoni.dpuf

Below is data from Fiscal Year 2011 (July 2010 through June 2011):

- 35,000,000 dollars in sales at CommuterDirect.com and at The Commuter Store®
- 24,524,604 dollars in fare media sales at the Commuter Information Center $9,331,370 dollars' worth of sales at The Commuter Store®
- 1,920,000 visits to CommuterPage.com® family of websites, including ArlingtonTransit.com
- 1,000,000 trips on Capital Bikeshare in year 1
- 600,000 transit timetables distributed
- 248,984 page views were logged at WashingtonAreaBikeForum.com
- 205,000 customers through The Commuter Store® doors
- 153,377 individual transactions and 986 corporate transactions processed at CommuterDirect.com.
- 131,397 employees reached through 661 employers by Arlington Transportation Partners
- 116,578 page views logged by 38,941 unique visitors at BikeArlington.com
- 79,750 tons of CO2 removed from the air every year
- 60,000 redesigned four-color Walkabouts brochures printed with updated text and maps for 18 Walkabout routes
- 50,000 Arlington County bike maps distributed
- 42,000 issues of Solutions newsletters and 1,160 e-Solutions issues distributed
- 29,000 phone calls at our call center
- 27,110 phone calls answered at the Commuter Information Center
- 19,111 people at 20 WalkArlington events including walking tours, workplace walks, health fairs, environmental expos, and school programs.
- 16,185 people at 53 Car-Free Diet events
- 10,000 people at 39 BikeArlington events
- 6,000 people reached at 48 transportation fairs
- 3,268 followers of Car-Free Diet on Twitter
- 3,237 pledges to go car-free
- 2,000 bikers checked in at Bike to Work Day rest stops in Arlington
- 1,000 bike light sets given away
- 307 Car-Free Diet Retail Partners
- 244 Personalized Commute Planners distributed
- 100 ART bus stops repaired or replaced due to vandalism, storms or accidents
- 48 transportation fairs attended reaching over 5,000 commuters.
- 42 site inspections of buildings for compliance
- 32 Redefine Your Commute campaign events conducted reaching over 6,000 commuters
- 20 walk events attracting 19,111 participants
- 14 new site plan properties assisted to comply with TDM requirements
- 10 Arlington businesses awarded the "Bicycle Friendly Business" status by the League of American Bicyclists
- 9 Confident City Cycling classes organized by BikeArlington with 169 attendees
- 6 TDM compliance reviews for residential site plan buildings completed

- 2 Car-free Diet Skeptics who went 30 days each without a car that was followed by thousands of people on a reality series show
- 1 new The Commuter Store®kiosk in Ballston
- See more at: http://mobilitylab.org/about-us/#sthash.q2edO8iV.dpuf

Stakeholder Engagement:

Mobility Lab also serves as a meeting place and the home of idea generation for:

- Transportation Techies DC monthly "Meetups"
- Technology-development fellowships such as the one that created TransitScreen
- Virginia Tech and American University transportation-focused students
- Crowdsourcing hackers for bike trip planning software and real-time transit screens
- Fairfax County (Virginia) Connector busline executives, and
- Roanoke (Virginia) transportation planners, to name a few.
- See more at: http://mobilitylab.org/about-us/#sthash.6BZ2aoni.dpuf

Applicability/Similarity to Boulder:

Developing in a program similar to Mobility Lab, while a daunting endeavor and a significant investment, seems a natural next step for Boulder and one that is very strongly aligned with AMPS program as well as overall community goals.

Replicability:

While programs like Mobility Lab and Portland's Metro (which has also adopted a similar education, research and outreach mission) provide good models, the effective implementation of such a program is a very difficult and potentially expensive task. However, the paybacks could also be significant in terms of congestion relief, progress toward climate commitment and transportation master plan goals.

Policy Implications:

This strategy seems very well aligned with Boulder's stated policy objectives, but it would need a significant funding mechanism. The parking tax strategy listed earlier in this document could provide that funding source.

Cost Implications:

Low to High depending on level of program development adopted.

References:

- Idea for Smarter Transit Fares Wins George Mason Competition - See more at: http://mobilitylab.org/tech/#sthash.VW7XCmBb.dpuf
- Hitchhiking Goes High Tech: The Story Behind CarmaHop's Upcoming Launch - See more at: http://mobilitylab.org/tech/#sthash.VW7XCmBb.dpuf
- The Technology Behind a New Kind of Travel Planning - See more at: http://mobilitylab.org/tech/#sthash.VW7XCmBb.dpuf
- Arlington County Building High-Tech Commute-Planning Software - See more at: http://mobilitylab.org/tech/#sthash.VW7XCmBb.dpuf

- An Open Data Standard Would Help Public Discover Bikesharing - See more at: http://mobilitylab.org/tech/#sthash.VW7XCmBb.dpuf
- Techies Work to Merge Data From Multiple Transit Agencies - See more at: http://mobilitylab.org/tech/#sthash.VW7XCmBb.dpuf
- Examining Mobility Innovations in the Sharing Economy - See more at: http://mobilitylab.org/tech/#sthash.VW7XCmBb.dpuf

More detail about the Mobility Lab program is provided in a separate whitepaper.

District Management

Best Practice # 32

Strategy:

Livable Neighborhood Plans

Description:

1. West End District Development Plan (2013): The West End is a livable neighborhood that is similar in size to Boulder with 43,000 residents, 23,000 jobs and millions of visitors each year. It is a community that features a range of housing, land use, heritage buildings, transportation options, and amenities. Because demand for new development is growing, City staff have prepared a community plan to ensure that future growth in the West End meets the needs of the community. In 2013, community members supported a set of emerging and refined plan directions, including the West End Community Values, which helped shape the community plan. The plan focuses on neighborhood character, housing, local business, heritage, and transportation and parking. Watch the project overview video.
2. Greenest City 2020 Action Plan
3. Neighborhood Champions Network (NCN)

Applicable Sub-Categories:

- Building Partnerships between Local Governments & Non-Profit Organizations
- “Greening Downtown”: Strategies for Institutionalizing Sustainability
- Guidelines for Expanding or Enhancing Existing Districts
- Important of District Context and Identity

Action Items for Consideration:

- Consider an Expert Panelist from the City of Vancouver

Potential Sub-Strategies for Implementation:

- Additional research into the formalized Neighborhood Champions Network (NCN) as a potential model for a formalized public participation process.
- Strong consideration should be given to the communication strategies that were used to provide information to the public about the plan's goals, implementation strategies and

accomplishments. Both online and print materials were created in a visually-appealing, easy to understand design that is consistent among mediums and gives the project a high-quality, professional feel.

- Consider cost implication matrix model as a format for sharing information about public and private investment

Documented Results:

- West End District Plan was approved by City Council in 2013.
- Results from the NCN's work on the West End Plan can be found in the Supplemental Materials and on the NCN's website (URL listed in references).
- 2011-2014 Implementation Updates from the Greenest City 2020 Action Plan can be found in the Supplemental Materials.

Stakeholder Engagement:

The West End Plan included significant community engagement, which is detailed on the West End Community Plan page of the City of Vancouver's website. According to the site, "In an effort to improve outreach during the community planning process, the West End Neighborhood Champions Network (NCN) was formed to:

- Provide advice on matters of public involvement and
- Assist with outreach to encourage wide participation in the public engagement process.

The NCN is based on the principles that:

- Everyone is entitled to have a voice, and
- Processes and outcomes are more effective when a diversity of participants are able to contribute."

The model recognizes that communications channels have changed a lot in recent years, especially the way people engage with each other, with businesses, and with government. The general public is no longer as dependent on representatives to access information and to share their ideas. The role of NCN members was to participate in and encourage others to participate in engagement channels that are open to all. Members did not have special status in regards to influencing final policy or designs; however they helped shape the engagement process itself.

Applicability/Similarity to Boulder:

- The West End District area is similar in size to Boulder with 43,000 residents, 23,000 jobs and millions of annual visitors.
- The West End is diverse, walkable, and densely populated. It is situated on peninsula and nearly surrounded by water, which has interesting parallels to Boulder's close proximity to the mountains and dense core. The West End is comprised of a vibrant Central Business District and four main commercial districts.
- The City is on track to bring its GHG emissions 5% below 1990 levels, 93% of the electricity generated is from renewable sources and the City has shifted its investment to supporting alternate modes rather than building new roads.

Replicability:

Despite their difference in size, the City of Vancouver and the City of Boulder have many parallels in their overall community values, respect for diversity of residents and desire to invest

inauthentic community engagement. While larger in scope than AMPS, the information provided on the creation of the West End Plan (on the City's website) provides a detailed overview of planning and implementation strategies. Additionally, the City has done an effective job of communicating about its multitude of planning efforts in a succinct way on its website. The layout, format and information included on the West End and Greenest City 2020 Action Plan page (especially the implementation updates) are very user (citizen) friendly. Examples are provided in the Supplemental Materials. Similar to AMPS alignment with the Climate Commitment, the West End Plan aligns with and supports the City's "Greenest City 2020 Action Plan" which aims to make Vancouver the "greenest City in the world". The West End Plan also aligns with the City's housing and homeless action plan, as well as the City's larger neighborhood planning efforts. The West End plan aligns closely with AMPS Guiding Principles as well, especially the desire to plan for both the present and the future, supporting a diversity of people (the West End is one of Vancouver's most diverse areas) and providing for all modes safely. More details on these alignments can be found in the Supplemental materials.

Policy Implications:

The West End plan included a variety of recommendations that have policy implications outlined in both the West End Plan and the Greenest City 2020 Action Plan. A sampling of those include

- Establishment of the NCN
- Developing financing tools to help bridge the gap between where the City currently stands with relation to energy efficiency and its goals

Other policies that are currently being explored by the City include: expanding support for car sharing; better management of on-street parking; unbundling the cost of parking from housing; and working with partners to encourage work-from home and other programs that reduce the need for vehicle trips.

Cost Implications:

West End Plan: A detailed matrix of cost implications and funding strategies are laid out on Page 119-120 of the plan (provided in the Supplemental Materials). A high-level breakdown includes 25% of costs covered by the City (through utility bills and property taxes), 50% from Community Amenity Contributions (CACs), Citywide Development Cost Levies (DCL's) and direct contributions provided by developers and 25% from donations, in-kind contributions from community partnering organizations.

References:

- IDA Awards of Excellence Submission: West End Community Development Plan (2014)
- West End Plan video
- West End Plan website
- Neighborhood Champions Network webpage
- Greenest City 2020 Action Plan webpage
- Livable Laneways

Best Practice # 33

Strategy:

Integrated Downtown Management and TDM Programs, - getDowntown

Description:

City of Ann Arbor's getDowntown Program. Founded in 1999, the getDowntown Program is a partnership between the Ann Arbor Transportation Authority, the Ann Arbor Downtown Development Authority, and the City of Ann Arbor. The program provides commuting programs and services to employees and employers in downtown Ann Arbor. Programs and services include the go!pass, the Commuter Challenge and Commuter Club, bike locker rentals, free commuting assistance to downtown employees and employers, commuting materials, Zipcars and more. getDowntown has its own staff and board.

Applicable Sub-Categories:

- Building Partnerships between Local Governments & Non-Profit Organizations

Action Items for Consideration:

- Further research into structure of getDowntown program's organizational structure, funding streams and effectiveness as a public-private partnership
- Review process for collecting feedback from those that utilizing the program's services and participate in program sponsored events as a possible model

Documented Results:

The getDowntown team periodically conducts surveys to garner information from regional employees. They also conduct a bi-annual Program Study and create an annual Commuter Challenge Report that includes information and statistics regarding downtown commuting choices in Ann Arbor, including the amount of CO2 emissions saved, participant calories burned and decrease in SOV trips. Program Study and Commuter Challenge Report results can be found in the Supplemental Materials.

Stakeholder Engagement:

The getDowntown program sponsors events throughout the year to educate residents on commuting options and to incentive the use of alternate modes (i.e., "Conquer the Cold" Commuting Challenge, Green Fair and Commuter Challenge). The Program Study Survey also provides stakeholders with an annual opportunity to provide feedback on the services. The program also uses a variety of mediums to engage with users including YouTube, social media, blogging and participation incentive partnerships with local businesses. Sample marketing/promotional items from these programs can be found in the Supplemental Materials.

Applicability/Similarity to Boulder:

- Boulder has identified Ann Arbor as a Peer City
- College town (University of Michigan)
- Similar weather
- Nationally recognized; award winning for livability
- Deep commitment to community “brand as a bohemian, politically aware, culturally active, 'hip' and exciting place unlike any other"
- Desire to maximize existing infrastructure

- Successful public transit system in place with "TheRide." TheRide had 6.6M riders and ridership was 4th highest in the nation in 2012

Replicability:

The City of Boulder already has a good foundation on which to build a program similar to getDowntown. Additional investments in staff time, marketing and event program coordination would be needed. Additionally, increase engagement with existing organizations like Downtown Boulder Inc. would help leverage/extend the reach of existing City staff.

- Aligns with Climate Commitment, Sustainability Framework and overall AMPS Guiding Principles
- Goals to decrease SOVs, CO2 emissions, and GHG emissions
- Encourages the cultivation of partnerships between the public and private sectors
- Offers a variety of transportation options to fit the needs of community members
- Promotes physical health and well being

Policy Implications:

- Encourages increased partnership between the City and private economic and community development organizations like Downtown Boulder Inc.

Cost Implications:

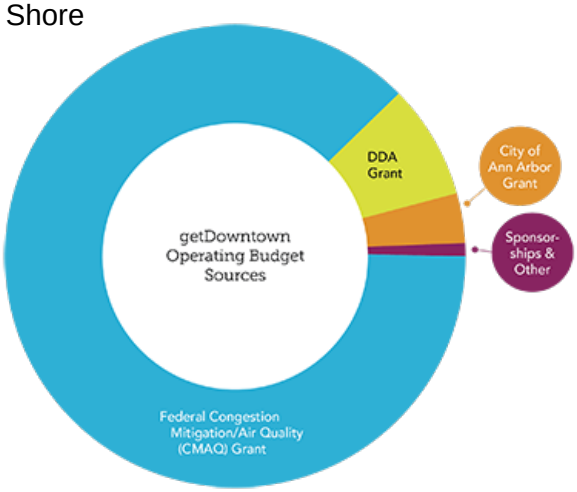
Total program budget is $261,000/year with a FY 2014 breakdown of funding in the following amounts:

- $212,000 CMAQ
- 40,000 Ann Arbor Downtown Development Authority
- 7,100 City of Ann Arbor

The program receives a small amount of sponsorships and other revenue from bike lockers. Of the $261,000 budget, salaries and wages account for $140,000. The remaining funds go directly to programming.

References:

- DDA Development and TIF Plan 2003-2033
- Phone call with getDowntown staff member Nancy Shore
- Supplemental Materials include: Commuter Challenge Infographic; Commuter Challenge Brochure; getDowntown Commuter Survey Results (2012)\



Best Practice # 34

Strategy:

Neighborhood Partnering Program

Description:

Neighborhood Partnering Program: In support of Imagine Austin, the Neighborhood Partnering Program (NPP) provides opportunities for community and neighborhood organizations to affect public improvements by sharing in the costs of those efforts with the City of Austin government. The Neighborhood Partnering Program consists of four subprograms:

1. The Neighborhood Cost Share Program (NCSP): The program assists neighborhood groups in developing, resourcing, and executing small- to medium-sized improvement projects in the City's right of way or on City-owned property. Cost sharing can be achieved through cash contributions, in-kind contributions, or donated labor)
2. The Grant Assistance Program (GAP) will provide City matching funds that will enable applicants to meet cost sharing or matching requirements for external grant opportunities
3. The Parking Benefit Project Proposal Program (PBPPP) assists the associated neighborhood organization identify, scope, and coordinate local improvement projects for which Parking Benefit District revenue can be dedicated and
4. The Adopt-A-Median Program (AAMP) provides an approval mechanism for community groups interested in adopting, beautifying and maintaining a median or other right-of-way areas

Brazos Tech District: "Brazos Technology District is a coalition of tech businesses in downtown Austin, Texas working together to solve common problems — minimizing transportation woes, improving our urban space, and creating better sense of community". With 3,000 high tech employees located along the Brazos Street corridor, the Brazos Tech District is addressing three areas:

- community building
- transportation solutions
- expanding food options

Lead Entity/Entities:

1. City of Austin, Public Works Department; other partners include: University Area Partners
2. Brazos Tech District

Applicable Sub-Categories:

- Building Partnerships between Local Governments & Non-Profit Organizations
- Guidelines for Expanding or Enhancing Existing Districts
- The Important of District Context and Identity

Action Items for Consideration:

- Detailed review of the Neighborhood Partnering and Neighborhood Cost Sharing Program processes as potential models for cost-sharing initiatives with growing districts/neighborhoods

- Engage tech community in conversation about a concept like the Brazos Tech District. This could be done in conjunction with an educational session on Innovation Districts to both provide information about district development beyond the CBD and encourage the investment of private seed funding for such district development.

Documented Results:

- Neighborhood Partnering Program: Names, descriptions and photos of successful Neighborhood Partnering Program projects 2011-2014
- Parking Benefit District: In the pilot program's first year, meters generated $163,000 for the PBD; over $40,000 was devoted to streetscaping projects, including sidewalk and curb enhancements, benches, crosswalks, transit shelters and bike lanes. In the first three months following the West Campus first full-scale PBD launch, the district generated $119,500 in meter revenues, a remarkable increase over the pilot and more than was estimated. Of this amount after city expenses, $28,000 was returned to the district. Moreover, thanks to its use of Austin's Neighborhood Partnering Program, the PBD received a matching benefit, resulting in $56,000 for more focused streetscape projects including sidewalks, trees and benches to accommodate pedestrian and bicycle traffic. These improvements have been doubly beneficial thanks to the city's work with retail and commercial users to encourage the use of non-automobile transportation in the area.

Stakeholder Engagement:

- The City of Austin uses the "SpeakUp" platform for online community conversation provided by Granicus and is similar to (but less functional) than Inspire Boulder.
- Neighborhoods that are interested in applying for the Neighborhood Partnering Program can request a presentation online through the City's website
- Funding requests for the NPP are heavily weighted (20/100 total points) based on level of community participation in the application

Applicability/Similarity to Boulder:

- College town
- Abundance of distinct, active neighborhoods and commercial districts
- Strong culture of community engagement
- High presence of entrepreneurs, tech community and startups
- Strong bicycle culture
- Known for being an active community
- High commitment to quality of life

Replicability:

The cities of Austin and Boulder share a similar "vibe" and reputation as hip, diverse, creative and a magnet for high-tech jobs and people. While Austin is a much larger community with a much bigger City budget, the median income and median property value in Boulder is significantly higher. Also similar to Austin, Boulder has a very dense presence of high-tech, high growth companies (especially for a community of its size)e and an established commitment to public/private partnership which can help leverage and extend public investment.

Both the NPP and the Brazos Tech District are seeking solutions with co-benefits that encourage the cultivation of partnerships between the public and private sectors. The NPP is firmly rooted in the City of Austin's larger master planning effort, "Imagine Austin" and the City has adopted a complete community planning framework similar to the TMP.

Policy Implications:

- With its adoption of "Imagine Austin" master plan, the City of Austin is working to identify itself as a City of "complete communities that provide access by foot, bike, transit and car to jobs, shopping, learning, open space, recreation, and other amenities and services.
- City of Austin established a Parking Benefit District ordinance in 2011.

Cost Implications:

1. The NPP is a cost-sharing program with the City of Austin. Project requests can range from $500 - $500,000. A full outline of the program's cost-sharing breakdown can be found in the Supplemental Material.
2. Campus Parking Benefit District: City of Austin received $43,275 US Environmental Protection Agency grant to pilot

References:

- Neighborhood Partnering Program website
- Neighborhood Partnering Program videos (available in both English and Spanish)
- The Connector
- Brazos Tech District

Best Practice # 35

Strategy:

Neighborhood District Parking Management Plans

Description:

City of Houston Neighborhood District Parking Management Plans

The City of Houston's District Parking Management Program was developed by Kimley-Horn while under contract with the City of Houston for a larger Parking Strategic Plan (2012-2014). The goal of the program was to engage with the neighborhoods surrounding the Central Business District in the developing district specific parking management solutions, and included the neighborhoods of Montrose, Washington Avenue, EaDo, Rice Village, Central Business District and the Museum District. The program was designed as a template so that the City's Parking Management Division could work directly with the local neighborhoods/districts to help them achieve their larger neighborhood development and management goals through the development and implementation of neighborhood district specific parking management programs and parking/transportation related investments.

Lead Entity/Entities:

City of Houston Parking Management Division (PMD) in partnership with neighborhood/district associations/leadership

Applicable Sub-Categories:

- Guidelines for the Creation of New Districts
- The Important of District Context and Identity
- Fostering Coordination/Collaboration between Districts

Action Items for Consideration

Review and evaluate the format for neighborhood district assessment and engagement used in Houston. An overview and flowchart is provided in the supplemental reference materials.

Potential Sub-Strategies for Implementation

- Create a parking management plan concept.
- Address parking comprehensively for the entire district.
- Establish goals and objectives for parking to support short-term and long-term development plans for the district.
- Create effective district communication mechanism to improve user information and marketing.
- Ensure that parking standards conform with adopted urban form and design goals.
- Establish parking maximums, instead of, or in addition to, parking minimums.
- Consider establishing a parking cap within a district to limit the amount of land dedicated to automobile storage.
- Maintain and optimize parking that already exists in a district, before taking on costly addition of new parking facilities.
- Encourage shared parking among neighboring businesses.

Documented Results

The Houston Washington Avenue area implemented a Parking Benefit district in 2013, installing new multi-space smart meters and implementing a revenue sharing plan with the district. Initial revenues available for district sharing after the first 6 months were approximately $60,000. A copy of the parking benefit district ordinance for the Washington Avenue area is provided in the supplemental reference materials.

Neighborhood District Parking Management plans are currently in process for the Rice Village, Museum and East Downtown districts.

Stakeholder Engagement

The neighborhood district parking management plan process used in Houston utilizes the following steps:

- Defining Neighborhood Context
- Current Conditions Overview
- Neighborhood Parking Resources and Market Conditions
- Economic Development Initiatives

- Community Values and Goals
- Historical, Cultural, Religious, Social Values
- Key Issues Identification
- Funding Tools, Resources & Potential Partner Organizations
- Parking and Mobility Management Specific Issues
    - On-Street Parking
    - Off-Street Parking
    - Valet Ordinances
    - Events Management
    - Parking Planning/Coordination with City Planning
    - Parking & Economic Development
    - Legal & Regulatory Issues
    - Urban Planning Initiatives
    - Multi-Modal Issues

Applicability/Similarity to Boulder:

Houston has identified Houston as a "City We Can Learn From"

Replicability:

High replicability

Policy Issues:

Prior to embarking on a similar initiative, ensure that the potential policy issues such as parking revenue sharing, are considered prior to opening discussions. Ensure that staff resource availability and funding sources are available to see the initiative through or be open with the neighborhood districts that resources are limitied up front.

Cost Implications:

The initial costs for initiative a neighborhood parking management plan is relatively low if done in-house. If a consultant is engaged to lead the process and generate an intial report/action plan a budget of $25K is reommended per area.

References:

- Houston Parking Benefit presentation (August 2014)
- City of Houston website (cityofhouston.gov/parking)
- City of Houston Neighborhood Parking Management District Process Flowchart
- Washington Avenue Parking Benefit District Ordinance

Best Practice # 36

Strategy:

Seattle's Urban Village Strategy for Neighborhood Development

Lead Entity/Entities:

City of Seattle, Department of Neighborhoods

Description:

Seattle's Urban Village Strategy for Neighborhood Development

In 1994 the City adopted the Comprehensive Plan in compliance with the State of Washington's Growth Management Act (GMA). The City's Comprehensive Plan promotes an "Urban Village Strategy" to concentrate growth in areas of the city already zoned to accommodate substantial additional development. As part of this process the City identified a number of "Urban Centers" and "Urban Villages" throughout the city where growth would be encouraged and concentrated. Subsequently, the City Council conducted "sub-area planning" through an extensive neighborhood planning process for 38 neighborhood created by nearly 20,000 community members. The plans identified over 4,200 actions recommended by these neighborhoods to ensure that they will continue to thrive and improve as Seattle grows over the next 20 years in ways that meet their commitments under the State's Growth Management Act. Of the 2,358 projects identified in the plans, more than 87 percent have been finished or are under way.

Action Items for Consideration:

- Consider an Expert Panelist from the Seattle Department of Neighborhoods
- Further research of the "Adoption Matrix" and lead agency "implementer" model as possible format for implementation of AMPS recommendations

Applicable Sub-Categories:

- Guidelines for the Creation of New Districts

Potential Sub-Strategies for Implementation:

Additional research into the formalized Neighborhoods Outreach and Engagement Program, specifically the roles and funding for the Public Outreach and Engagement Liaisons and Neighborhood District Coordinators as a potential model for a formalized public participation process.

Documented Results:

Transportation projects were the largest category of projects identified in the neighborhood planning process. Locally identified transportation projects became critical parts of city-wide plans for transit, biking and pedestrian safety. Today, 80% of the transportation projects outlined in the neighborhood plans have been built or are currently being built. Additionally, the City has invested $11M to improved streets and $13.5M in transportation projects. A recent survey of Seattle residents found that 93 percent said neighborhood plans had improved their communities.

Stakeholder Engagement:

Public engagement for the Neighborhood Planning Process was handed through the Seattle Department of Neighborhoods Outreach and Engagement Program. The Program was designed to increase access to information, resources, and civic processes for the diverse groups and individuals in each neighborhood, including historically underrepresented

populations. The Program's work is implemented by Public Outreach and Engagement Liaisons and Neighborhood District Coordinators, a team of professionals located in offices throughout Seattle who serve as resources and liaisons for community members. Together they assist other city departments in their outreach and engagement needs ensuring that city government provides information to all community members, forges connections, fosters relationships, and receives rich, diverse, and meaningful civic participation.

Applicability/Similarity to Boulder:

- Boulder has identified Seattle as a "City We Can Learn From"
  *Presence of major university in downtown area (WU)
- Abundance of distinct, active neighborhoods and commercial districts
- Strong culture of community engagement
- High presence of entrepreneurs, tech community and startups
- Strong bicycle culture
- Known for being an active community
- High commitment to quality of life

Replicability:

Despite their difference in size, the City of Seattle and the City of Boulder have many parallels in their overall community values, respect for diversity of residents and desire to invest inauthentic community engagement. The City of Seattle's Neighborhood Planning Process has been recognized for its unique "bottom-up approach", an approach that would align well with the high level of community participation that exists in Boulder. The model of empowering some of the AMPS districts with a "Urban Village Strategy" with a specific policy "Approval and Adoption Matrix" seems like a model that would work well in Boulder.

- Aligns with several of the AMPS Guiding Principles including: customizing tools by area, supporting a diversity of people, seeking solutions with co-benefits and building partnerships for the future.

Additionally, the City of Seattle's ability to create a planning framework that aims to balance a process that is managed by the City and whose recommendations are ultimately approved by the Council that at the same time feels grassroots in nature encourages the cultivation of authentic and productive partnerships between the public and private sectors.

Policy Implications:

The Neighborhood Planning Process began in 1995 with a City resolution calling for a partnership between the City and its neighborhoods to improve the quality of life while embracing the City's Urban Village Strategy, and concluded in 1999 with the City Council's adoption of broad policies from each neighborhood plan into the Comprehensive Plan chapter on Neighborhood Plans. The City also "recognized" the plans created by each neighborhood as "reflecting the wishes of the neighborhood," and adopted an Approval and Adoption Matrix for each plan that listed the recommendations from the plan, identified a lead agency as "implementer", and included a City response about the likelihood of implementation.

Cost Implications:

As part of its mission, the Seattle Department of Neighborhoods (DON) also manages the Neighborhood Matching Fund (NMF), which provides grants to preserve and enhance the City's diverse neighborhoods. DON has four lines of business:

1. The Community Building Division delivers technical assistance, support services, and programs in neighborhoods,
2. to strengthen local communities, engage residents in neighborhood improvement, leverage resources and
3. Complete neighborhood-initiated projects. The programs that support this work include:
    - P-Patch Community Gardens;
    - Neighborhood District Coordinators;
    - Major Institutions and Schools;
    - Historic Preservation;
    - Neighborhood Planning Outreach; and
    - Neighborhood Matching Fund (NMF)

A complete overview of the Department of Neighborhood's 2014 budget can be found in the Supplemental Material.

References:

- City of Seattle website
- Seattle Neighborhood News article (2009)
- Department of Neighborhood's Budget Overview 2014

Best Practice # 37

Strategy:

Industry Cluster Development

Description:

Portland Cluster Development

An industry cluster is a group of geographically concentrated, inter-related firms. Companies that locate in a cluster benefit from a skilled labor force, increased innovation, coordinated advocacy efforts, high-quality supply chains, and knowledge spillover. Clusters interact in ways that establish competitive advantages through the creation and incorporation of new knowledge into products and the processes that produce them. PDC understands the importance of building strong clusters, and that's why we support initiatives that strengthen cooperation and competitive advantages for Portland companies. The Portland Development Commission (PDC) targets clusters that are part of the traded sector, meaning that they sell to markets outside the region, bringing new money into the community.
By focusing on clusters PDC can:

- Deploy limited resources in a strategic and catalytic fashion.
- Develop a deep understanding of factors influencing competitiveness.
- Interact with groups of firms rather than conduct isolated transactions.
- Facilitate industry-led innovation and interventions.
- Foster the alignment of resources among regional and state partners.

Objectives for Organizing Portland Clusters:

- Convene critical players in cluster eco-system.
- Develop detailed market analyses for each cluster defining actual market opportunities.
- Develop and implement industry-driven action plans
- Create self-sustaining momentum within clusters
- **Lead Entity/Entities:**
- Portland Development Commission (PDC)

Applicable Sub-Categories:

- Guidelines for the Creation of New Districts
- Guidelines for Expanding or Enhancing Existing Districts

Action Items for Consideration:

- Consider an Expert Panelist from the Portland Development Commission
- Identify potential cluster sectors
- Identify and begin conversations with key partners/cluster/sector leadership

Potential Sub-Strategies for Implementation:

Similar to Vancouver and Seattle, further research on the public participation model in Portland with specific focus on the structure of the NED Leadership Group and how it works with the Ad-Hoc Citizen Advisory Committees is recommended. Creating a sustainable and consistent model for public participation would be beneficial both in terms of saved staff time and increased consistency/understanding of the process for stakeholders.

Documented Results:

Portland has identified four main industry concentrations to which it directs staff and financial resources, including:

- Athletic & Outdoor
- Clean Teach
- Advanced Manufacturing
- Software

Each cluster area also has its own webpage that outlines recent news for the cluster, economic impact of the cluster focus, top PDC initiatives in that cluster area and a downloadable strategy document specific to the cluster. Examples can be found in the reference section.

Stakeholder Engagement:

In October 2013, PDC updated its public participation policy to tailor its public outreach and involvement to reflect both the agency's mission and its organizational capacity. PDC's main approaches to engage the community will encompass:

1. The NED Leadership Group. The charge of this approximately 30-member group is to guide the implementation of the NED Strategy.

2. The Central City Budget Advisory Committee. This approximately 15-member committee will advise PDC during the budget development process, focusing on projects, programs, and activities in the Central City Urban Renewal Areas (URAs).
3. Citizen Advisory Committees. PDC has a process for creating, managing, and staffing one-time and ongoing citizen advisory committees to advise and inform PDC on significant projects and activities.

Additionally, PDC is actively involved with social media outreach including Facebook, Twitter, Flickr and YouTube.

Applicability/Similarity to Boulder:

- Portland has identified Portland as a "City We Can Learn From"
- Nationally recognized; award winning for livability
- Strong culture of community engagement
- High presence of entrepreneurs, tech community and startups
- Strong bicycle culture
- Known for being an active community
- High commitment to quality of life

Replicability:

The cities of Boulder and Portland share a similar "vibe" and reputation as hip, diverse, creative and a magnet for high-tech jobs and active people. Similar to Portland, Boulder has a very dense presence of high-tech, high growth companies (especially for a community of its size) and an established commitment to public/private partnership which can help leverage and extend public investment. Additionally, with the presence of budding commercial districts beyond the CBD, the cluster concept would be a good model to explore for encouraging targeted growth in specific industry areas that would support the City's larger economic development goals.

1. Similar to Boulder, the City of Portland has a strong commitment to building a sustainable economy. The main focus of its economic development strategy is to align its strategic partners behind three key goals:
2. Stimulate neighborhood business vitality,
3. Maximize competitiveness and
4. Drive urban innovation. Additional information about the strategies under each focus area can be found in reference #6 (Economic Development Strategy Presentation.

This strategy aligns with several of the AMPS Guiding Principles including: customizing tools by area, supporting a diversity of people, seeking solutions with co-benefits and building partnerships for the future.

Policy Implications:

Public Participation Policy, Updated 2013

Cost Implications:

According to the PDC"s 3-Year Status Report: Approximately $74.8 million of direct financial assistance to support business and job growth in Portland – largely in the form of multi-year loans and tax abatements – has leveraged $745 million in private and federal government investments and produced an estimated 4,748 construction jobs. A breakdown of estimated jobs created, public financial assistance, private Investment and leveraged ratio of investment from Economic Development-Related Programs from July 2009 - July 2012 can be found on page 3 of reference # 7 (Portland Economic Development Strategy).

References:

- Portland Development Commission Community Engagement website
- PDC Cluster information
- Sample Cluster Industry Report (for Athletic & Outdoor Cluster) (PDF)
- PDC Cluster information
- Economic Development Strategy Presentation (PDF)
- Portland Economic Development Strategy 3-Year Status Report (PDF)

Best Practice # 38

Strategy:

Innovation Districts

Description:

Innovation Districts: Case Study Boston, MA

For the past 50 years, the landscape of innovation has been dominated by places like Silicon Valley—suburban corridors of spatially isolated corporate campuses, accessible only by car, with little emphasis on the quality of life or on integrating work, housing, and recreation. A new complementary urban model is now emerging, giving rise to what we and others are calling "innovation districts." These districts, by our definition, are geographic areas where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators, and accelerators. They are also physically compact, transit-accessible, and technically-wired and offer mixed-use housing, office, and retail. Innovation districts are the manifestation of mega-trends altering the location preferences of people and firms and, in the process, re-conceiving the very link between economy shaping, place making and social networking. In recent years, a rising number of innovative firms and talented workers are choosing to congregate and co-locate in compact, amenity-rich enclaves in the cores of central cities. Rather than building on green-field sites, marquee companies in knowledge-intensive sectors are locating key facilities close to other firms, research labs, and universities so that they can share ideas and practice "open innovation."

Lead Entity/Entities:

City of Boston, Office of the Mayor Tom Menino

Applicable Sub-Categories:

- Guidelines for Expanding or Enhancing Existing Districts
- District Certification and Designations

Action Items for Consideration:

- Consider an Expert Panelist from community where successful Innovation District exists
- Identify potential partnering entities and institutions (both public and private)
- Identify existing districts/neighborhoods/activity centers that align with one of the three main models for Innovation District development with a specific focus on the Anchor District model, perhaps in partnership with CU

Documented Results:

Case Study: Boston, MA: The Innovation District is Mayor Thomas M. Menino's initiative to transform 1,000 acres of the South Boston waterfront into an urban environment that fosters innovation, collaboration, and entrepreneurship. In the three years since the initiative began, the area has grown rapidly. The growth is spread across a diverse range of companies in different sectors and at different scales. Here are selected highlights of all we've accomplished in just a few short years:

<u>New Jobs</u>

- Added over 5,000 new jobs in over 200 new companies
- Technology companies have contributed 30% of new job growth
- 21% of new jobs are in creative industries like design and advertising
- Greentech + life sciences are growing, with 16% of new jobs in these sectors

<u>New Companies</u>

- Of the new companies, 11% are in the education and non-profit sectors
- 40% of new companies are sharing space in co-working spaces and incubators
- 25% of new companies are small scale, with 10 employees or fewer

Stakeholder Engagement:

Creating an Innovation District is a highly collaborative and stakeholder intensive process. After researching dozens of Innovation Districts across the world, researchers at The Brookings Institute determined that a "collaborative leadership network" is key to creating a district. A collaborative leadership network is a collection of leaders from key institutions, firms, and sectors who regularly and formally cooperate on the design, delivery, marketing, and governance of the district (i.e. City governments, nonprofit economic development groups, private developers, for profit businesses). Practitioners reflected that to bring innovation to scale—i.e. beyond the boundaries of individual organizations and firms—has required leaders from disparate institutions to encourage idea sharing across researchers, firms, universities, and supportive organizations. Likewise, physically remaking a place in the service of innovative growth and expanding employment and educational opportunities for low-income residents has required leaders to think and act in a multi-dimensional fashion, across multiple sectors and communities.

Applicability/Similarity to Boulder:

While the creation of "Innovation Districts" typically adhere to three general models, the model most applicable to Boulder appears to be the "Anchor Plus" model. The “Anchor Plus” model, primarily found in the downtowns and mid-towns of central cities, is where large scale mixed-use development is centered around major anchor institutions and a rich base of related firms, entrepreneurs and spin-off companies involved in the commercialization of innovation. Additionally, innovation districts can reduce carbon emissions and drive denser residential and employment patterns at a time of growing concern with environmentally unsustainable development. Innovation districts are potential engines for sustainable development since they embrace residential and employment density via the strategic use of transit, historic buildings, traditional street grids, and existing infrastructure. Some districts are going further by using renewable energy as their primary power source and by transforming their buildings, streets, and parks into living labs to test cutting edge sustainable projects in concert with technology firms and entrepreneurs.

Replicability:

Globally, Barcelona, Berlin, London, Medellin, Montreal, Seoul, Stockholm and Toronto contain examples of evolving districts. In the United States, districts are emerging near anchor institutions in the downtowns and midtowns of cities like Atlanta, Baltimore, Buffalo, Cambridge, Cleveland, Detroit, Houston, Philadelphia, Pittsburgh, St. Louis, and San Diego. They are developing in Boston, Brooklyn, Chicago, Portland, Providence, San Francisco and Seattle where underutilized areas (particularly older industrial areas) are being re-imagined and remade. Still others are taking shape in the transformation of traditional exurban science parks like Research Triangle Park in Raleigh-Durham, which are scrambling to meet demand for more urbanized, vibrant work and living environments. Innovation districts represent a radical departure from traditional economic development

Policy Implications:

While Innovation Districts are still a relatively new trend, their design and implementation has been driven/led by a variety of individuals and institutions, both public and private. For example:

- Mayors & Local Governments (Boston, Barcelona, Stockholm)
- Real Estate Developers and Land Owners (Seattle, Brooklyn)
- Incubators, Accelerators and Other Economic Cultivators (Barcelona, Cambridge, St. Louis)

Cost Implications:

Due to the various types of models used to create an Innovation District, the financing tools and public investments used can be distinct. Districts can use a variety of special taxing districts, seed funding, infrastructure development, and grants. This demonstrates the possibility of multiple methods of achieving similar outcomes depending on the resources available in each city. For example, Barcelona concentrated its efforts on five high-tech areas, whereas Toronto focused on biomedical and financial industries. Boston, however, chose not to target specific industries, instead allowing different industries to grow naturally.

References:

- "The Rise of Innovation Districts: A New Geography of Innovation in America", a report for the Metropolitan Policy Program of the Brookings Institute by Bruce Katz and Julie Wagner (May 2014)

- Boston's Innovation District website
- Michigan Municipal League

Best Practice # 39

Strategy:

Neighborhood Parking Programs

Description:

Often time residential areas that are near busy commercial areas experience spillover and parking problems where customers occupy spaces, leaving minimal spaces for the residents and their visitors. As a way to combat this, many cities implement a permit program specifically for neighborhoods so that they residents are ensured a parking space.

Action Items for Consideration:

- Review new practices related to residential permit programs. Specifically, evaluate how neighborhood parking demand is documented, how the effectiveness of existing policies are assessed, how new blocks/areas are added or modified.
- Research potential program innovations that attempt to be more proactive in regards to program adjustments.
- Review how pricing is structured for different types of permits.
- Review the potential introduction of parking charges in residential developments, through separating or “unbundling” the cost of parking from rents or sale prices.
- Assess concepts such as “rent rebates” or discounts to residents who own fewer vehicles and do not use their allocated parking spaces.

Potential Sub-Strategies for Implementation:

- Implement paid meters in appropriate neighborhoods (and the residents agree with it). Have the meter revenue fund improvement projects within that neighborhood.
- Evaluate each neighborhood requesting a permitted zone to have unique regulations that meet their needs. For instance, one neighborhood may be fine with allowing customer parking for a 2-hour time limit, whereas others may not allow any parking on the street without a valid permit.
- Create a simple online permitting process where people can apply for permits and request that their neighborhood be part of the program.

Documented Results:

NPP programs find a balance between customer demands and residential parking demands. The types of programs vary from city to city, however, they have effectively balanced parking demands in those areas.

Stakeholder Engagement:

Revamping this program would require continuous and open outreach with neighborhood representatives and residents. Furthermore, information

Applicability/Similarity to Boulder:

The City currently has a neighborhood permitting program in place. The program could be reviewed and adjustments made to improve the program in how it is applied, application processes, and other management components of the program.

Replicability:

This strategy is not tailored to any specific type of area or community. It can be replicated easily because of its broad nature and ability to be molded to the specific needs of the community.

Policy Implications:

This strategy will require the City to reconsider their permit program and its applicability to the City's neighborhoods.

Cost Implications:

Costs for this strategy may involve a revamping of the permitting structure and online services to ease the permitting and application processes.

References:

- City of Seattle, Department of Transportation
  City of Charlotte, Department of Transportation

Best Practice # 40

Strategy:

Transit Oriented Corridors

Description:

Assess best practices related to the creation of effective TOD Corridors or Transit Oriented Corridors (TOCs). Below is summary of a TOC planning process including planning goals/desired outcomes:

1. Comprehensively planning and designing a collection of transit oriented developments (TOD) at a corridor, or TOC scale can optimize many key benefits, such as:
   - Higher corridor internal trip capture rates
   - More balanced ridership flows
   - Maximize the person miles per hour on a corridor
   - More effective coordination between transit investments and public and/or private development initiatives
2. A key process goal is to better understand the relationship between transit use and key TOC/TOD components, including:
   - TOC/TOD densities and both peak & off peak ridership rates
   - TOC/TOD land use synergies and balanced, bi-directional transit travel
   - Reduced Greenhouse Gas emissions, energy consumption, and other benefits associated with improved travel efficiencies

3. Another key process goal is to refine stakeholder's and planner's understanding and application of the TOC/TOD perspective to leverage the following objectives:

- Corridors more effectively capture natural travel patterns
- Easier to effectively coordinate transportation, land use and urban design at a sub-regional/corridor level, as opposed to a regional level

See reference document: "Central Corridor TOD Investment Framework: A Corridor Implementation Strategy December, 2010"

Center for Transit-Oriented Development

The Center for Transit-Oriented Development (CTOD) is the only national nonprofit effort dedicated to providing best practices, research and tools to support market-based transit-oriented development.

CTOD partners with both the public and private market sectors to strategize about ways to encourage the development of high performing communities around transit stations and to build transit systems that maximize development potential. CTOD works to integrate local and regional planning, generate new tools for economic development, real estate and investment issues, improve affordability and livability for all members of the community, and respond to imperatives for climate change and sustainability. The Center for TOD is a partnership of Reconnecting America, the Center for Neighborhood Technology, and Strategic Economics.

For more information go to CTOD's website at www.ctod.org. Several reference documents from the Center for Transit-Oriented Development are provided for review including:

- http://www.reconnectingamerica.org/assets/Uploads/tod101full.pdf
- http://ctod.org/pdfs/tod201.pdf
- http://puff.lbl.gov/transportation/transportation/pdf/ra-tod-202.pdf
- http://www.fta.dot.gov/documents/RA_TOD206_IntercityRail_6.6.13.pdf
- http://www.reconnectingamerica.org/resource-center/browse-research/2008/tod-202-transit-employment-increasing-transit-s-share-of-the-commute-trip/
- http://www.crcog.org/publications/TransportationDocs/Transit/NHHS/TOD%20Resources/(2)BestPracticesLibrary8-8.pdf

Minneapolis/St. Paul - Central Corridor Project

Another example of an effective TOD corridor planning project is the Central Corridor between downtown St. Paul and Minneapolis. This eleven-mile light rail corridor will run on University and Washington Avenues linking with the Hiawatha light rail line and the new Northstar commuter rail line.

The key take-away from this project is the idea of a coordinated investment framework for the Central Corridor, in order to strategically coordinate investments and maximize the value of new light rail transit for surrounding neighborhoods. The Central Corridor Funders Collaborative (CCFC) supported this planning process and the creation of a Central Corridor Working Group, which consisted of representatives from the City of St. Paul, the City of Minneapolis, Ramsey County, Hennepin County, the Metropolitan Council, and the Minnesota Housing Finance Agency.

The purpose of the Central Corridor Investment Framework is to identify critical challenges and opportunities associated with TOD-supportive investments that might otherwise be missed by individual jurisdictions and participants. The framework provides a comprehensive summary of all of the corridor-wide key investments necessary to fulfill the visions contained in local community-based plans. It is intended to help in establishing a coordinated voice in support of future corridor-wide funding needs, clarify strategies for various funding partners, and provide information to support individual jurisdiction funding requests and private investments. The referenced report (Central Corridor TOD Investment Framework: A Corridor Implementation Strategy December, 2010) summarizes the results of this effort.

Arlington County Corridor

Arlington County is arguably the nation's best TOD success story of the past 30 years. Located directly across the Potomac River from Washington, D.C., Arlington County attracts many visitors to sights such as Arlington National Cemetery and the Pentagon. Since the 1970s, it has also become an increasingly popular place to live, work, and shop due in part to high-density development along its two Metrorail corridors: Rosslyn-Ballston and Jefferson Davis.

A conscious decision by county planners, officials and citizens to locate the Metrorail along two major arterials (Wilson Boulevard and Fairfax Drive) instead of down the median of Interstate 66 created opportunities for both public and private development. Superb transit access coupled with connect thoroughfares ensured that trains, buses, cars, and pedestrians could easily reach neighborhoods that surround stations. Since Metrorail began operating in Arlington County in the late 1970s, it has become a popular origin and destination for residents and visitors alike.

Through a combination of strategic planning and market forces, each of Arlington County's Metrorail stations has taken on a specialized function: Rosslyn, Ballston, Crystal City serve as business centers, Court House has emerged as a governmental center, Pentagon City has become a regional shopping center, Clarendon functions as an "urban village" with shops and restaurants, and Virginia Square has a cultural and educational focus. Of the nearly 190,000 people living in Arlington County, 26 percent reside in Metrorail corridors even though they comprise only 8 percent of land area. Since 1960, over 31 million square feet of gross floor area (GFA) of office space and nearly 30,000 residential units have been constructed in the county, and over three-quarters of these amounts have been in Metrorail corridors. Arlington County today boasts one of the highest percentages of transit use in the region with 39.3 percent of Metrorail corridor residents commuting to work by public transit.

Documented Results:

The cumulative effects of joint development and corridor planning over the past 4 decades in Arlington County are revealed by smart growth and ridership statistics.

Arlington County planners understood that Metrorail provided an unprecedented opportunity to shape future growth and proceeded to introduce various strategies — targeted infrastructure improvements, incentive zoning, development proffers, permissive and as-of-right zoning — to entice private investments around stations. After preparing countywide and station-area plans on desired land-use outcomes, density and setback configurations, and circulation systems, zoning classifications were changed and developments that complied with these classifications could proceed unencumbered. The ability of complying developers to create TODs "as-of-right" was particularly important for it meant developers could line up capital, secure loans, incur upfront costs, and phase-in construction without the fear of local government "changing its mind."

Understanding Transportation and Land Use Interactions at the Station and Corridor Scales

Here are the initial findings of this research:

- Diversity, as represented by The Mixed Use Entropy index shows a statistically significant relationship to AM Boardings
- Density, as shown by Employees per acre shows a significant relationship with AM Boardings
- Parking spaces shows a statistically significant negative relationship

And finally, when selecting stations without parking spaces there were some interesting findings between several dimension and AM peak hour boardings, as follows:

- The mixture of land use entropy index of the shows up as both significant and positively correlated with AM peak hour boardings.
- Population density is significant, and negatively correlated
- As the time to drive to downtown SF goes up, AM boardings go down

Stakeholder Engagement:

The Creative Districts program is heavily stakeholder driven. Indeed one of the most important qualifiers for the program is to demonstrate extensive stakeholder engagement across all sectors in the community and to be able to show their support and role in the district's development and growth. The state has successfully worked with these districts, providing funding, training in support as they work towards sustainability.

Applicable Sub-Categories:

- District Certification and Designations

Applicability/Similarity to Boulder:

The City of Boulder is currently working on a mile-wide corridor that runs east from Folsom Street to 75th Street along Arapahoe Avenue. The project is set to run through 2015.

Replicability:

The approaches to TOD Corridor planning in the examples and reference documents provided can be adopted to apply to any corridor planning project.

Policy Implications:

Limited. The corridor project is already approved; these planning and implementation recommendations should support the policy decisions already approved.

Cost Implications:

Limited. The referenced examples and planning process elements highlighted in the attached could be integrated into the East Arapaho project with minimal cost.

References:

- Central Corridor TOD Investment Framework: A Corridor Implementation Strategy December, 2010
- City of Sparks Nevada, TOD Corridor Master Plan

Best Practice # 41

National, Local or International:

National

City:

Fort Worth, TX (Pop: 777,992)

Lead Entity/Entities:

Downtown Fort Worth, Inc.

Description:

Molly the Trolley. To make it easier for people to get around downtown Fort Worth, several downtown organizations joined creative forces to test a new shuttle service. "Molly the Trolley", a whimsical take on Fort Worth's traditional longhorn mascot, is a rubber-tire trolley that appeals to visitors and locals alike. Molly links all of downtown together by traveling a circular route, allowing visitors, employees and residents to conveniently travel downtown. The Trolley runs Monday-Friday, 10 AM to 10 PM with several extended service times offered (like Sunday night).

Applicable Sub-Categories:

- District Branding, Marketing and Strategic Communication

Action Items for Consideration:

- While Go Boulder has information and links to the various RTD routes on the City's website, several of the web links to bus routes (including the Downtown Hop) are broken. Regular maintenance on the website to ensure that links are working and up to date is strongly recommended.
- Connect with RTD and Downtown Boulder Inc. about a partnership to do a pilot on one of the in-town routes where increased ridership would be most impactful. This pilot could include rebranding of fleet vehicles (with wraps) partnered with an educational (yet fun!) marketing campaign to encourage increased ridership.

Documented Results:

The Molly the Trolley project has included a large research component. When the program was launched, riders were surveyed every other day by volunteers who rode the trolley from 7 a.m. to 9 p.m. Survey takers wear eye-catching Molly t-shirts and serve as downtown ambassadors. They report very enthusiastic riders who love the service, love the name and even want to purchase the t-shirts. The marketing surveys also allow us to make improvements to the service almost in "real time." Within the first 10 days of service, ridership ranged from 138 to 392, with an average of 207 (initial estimates were 50 riders/day).

Other survey results:

- 68.7% rated Molly "excellent" for comfort
- 70.5% rated the route and schedule as "excellent"
- 75% rated Molly "excellent" in meeting their downtown transportation needs
- 80% use Molly 1-2 times per day

Stakeholder Engagement:

While the program was implemented at the downtown association staff level, and done so very quickly, its success relied heavily on gaining "real time" feedback from riders. Downtown Ambassadors were dedicated to the service and acted as downtown "tour guides" - handing out information and getting rider feedback through surveys. Additionally, the program was made possible by an innovative public-private partnership that included the Fort Worth Transportation Authority, non-profit downtown association, Convention and Visitor's Bureau and private businesses.

Applicability/Similarity to Boulder:

While the cities are vastly different in size and demographic make-up, the program's public-private partnership, marketing and outreach campaign and program monitoring/expansion provide a good template for future transportation marketing/promotional campaigns.

Replicability:

The entire program was created, approved and launched within one month. A downtown circulator trolley could be replicated in any downtown as long as there are dedicated partners involved to support the service both financially and through marketing. The service could simply be renamed to reflect the unique character of each city. The various elements of the marketing campaign could also be replicated.

- Encourages the cultivation of partnerships between the public and private sectors
- Offers a variety of transportation options to fit the needs of community members
- The success of the campaign relied heavily on community adoption of a creative and community-specific brand. The visuals used in the creation of the "Molly the Trolley "persona provide a good example of how transportation marketing campaigns can be done in a way that successfully ties into a community's larger values and character.

Policy Implications:

The service was a public-private partnership led by the Downtown Fort Worth Inc. organization.

Cost Implications:

The Trolley was funded through a public-private partnership that included: Downtown Fort Worth, Inc., the Fort Worth Convention & Visitors Bureau, Sundance Square, the Fort Worth Transportation Authority (the T), the Omni Fort Worth Hotel, The Ashton Hotel and the Sheraton Fort Worth Hotel and Spa. The pilot was launched with a reasonable marketing budget of $15,000.

References:

- Molly the Trolley website
- IDA Awards of Excellence Submission 2009 (PDF)

Conclusion and Next Steps

This initial research into best practices organized by the AMPS "Focus Areas" is intended to provide a range of options for staff, City officials and community stakeholders to consider as the first step in a process of refining and prioritizing the key action items that will be fleshed out in Phase Two of the Access Management and Parking Strategy (AMPS) project.

These preliminary best practices will be summarized onto boards by focus area and presented to the community through a series of public meetings, board presentations and other outreach strategies. An interactive exercise will allow all stakeholders to provide feedback and recommendations on prioritization. We will also be asking for feedback on "What's Missing".

A large number of industry best practices were documented that the City of Boulder has already adopted or pioneered. These "already implemented" best practices will be documented for informational purposes at the public meetings.

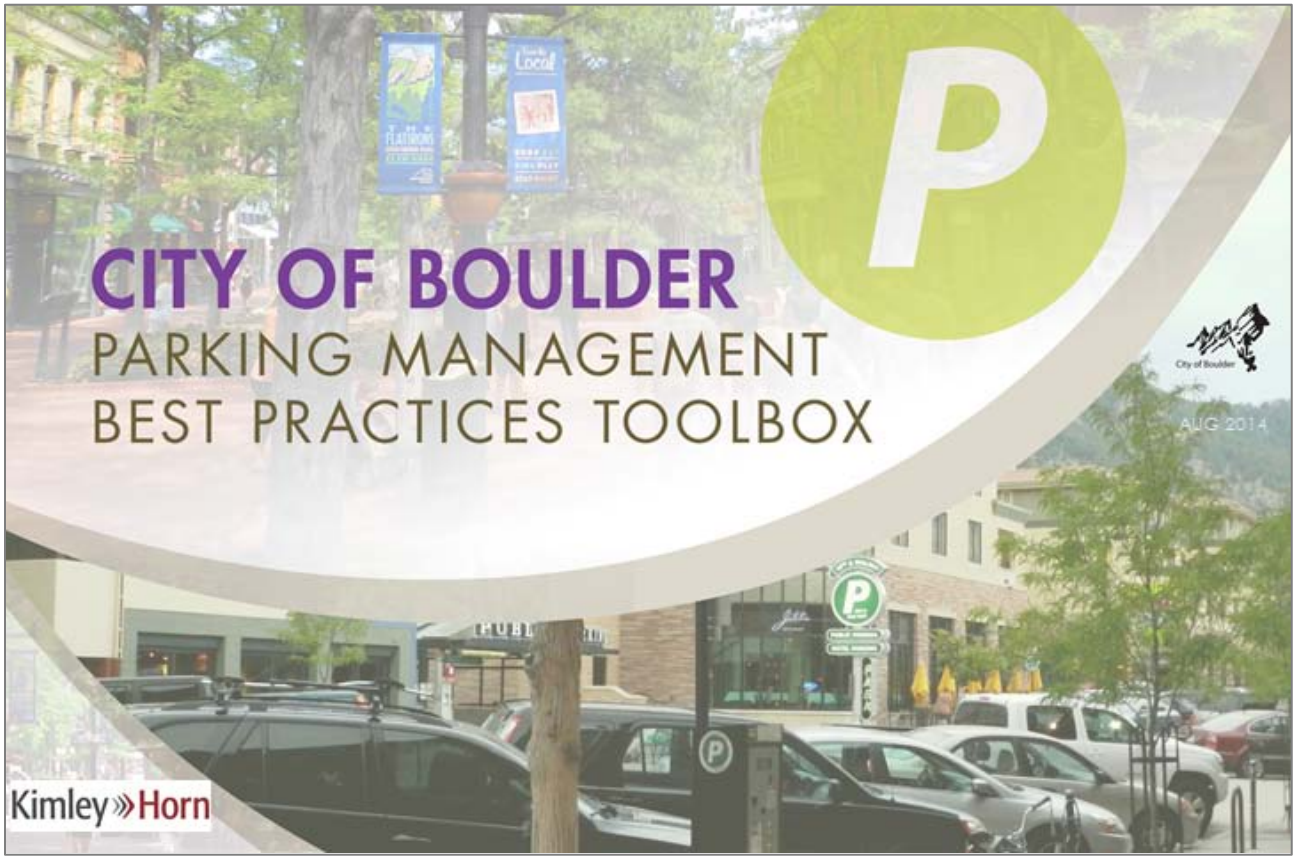
As the list of prioritized strategies is finalized, specific "PhaseTwo" project work plans will be drafted for City staff review. These work plans will define the process for the remainder of the project.

APPENDICES

Appendix #1: Parking Management and Design Best Practices

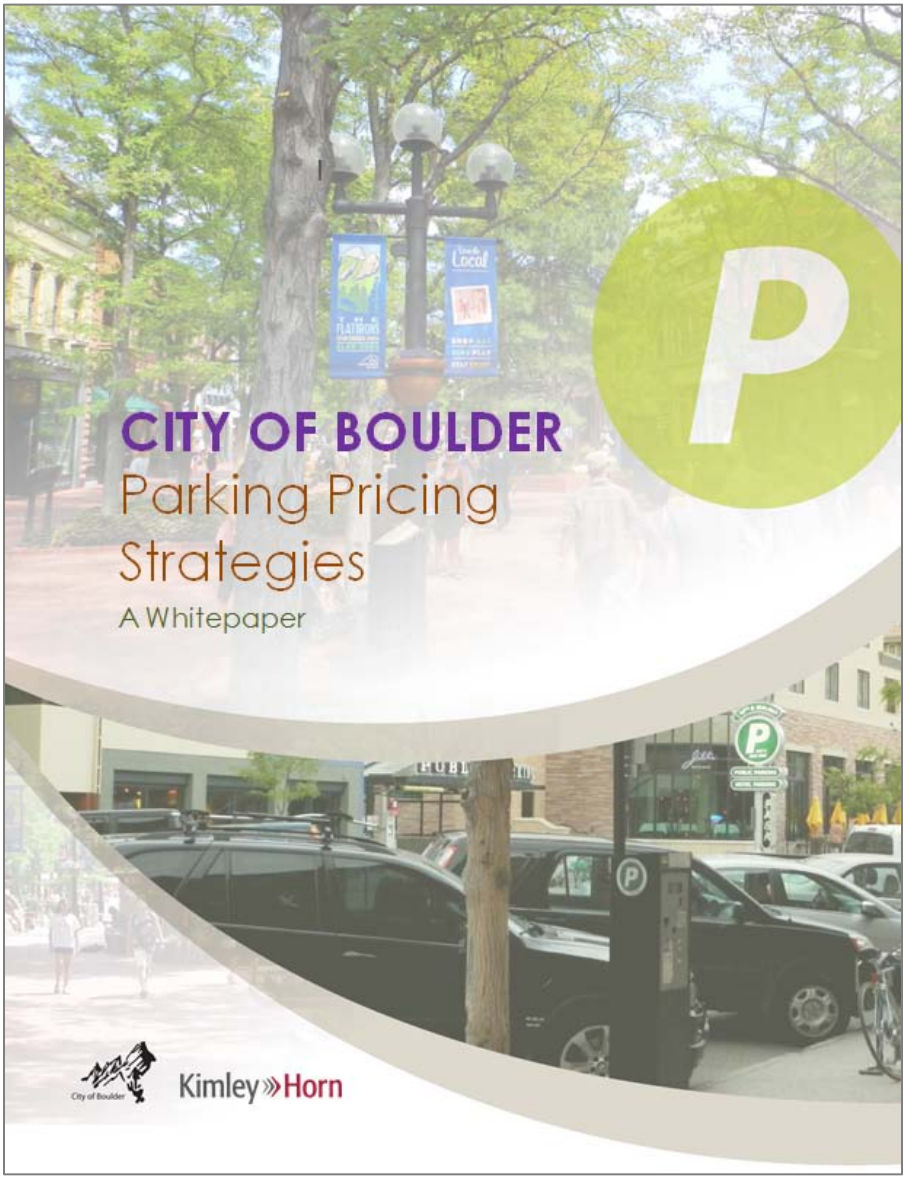
Appendix # 2: Parking Pricing Strategies Whitepaper

Appendix # 1: Parking Management Best Practices



This supplemental document, available on the City's AMPS webpage, contains over 300 additional parking management best practices, many of which the Boulder program has already adopted or even pioneered in some cases.

Appendix # 2: Parking Pricing Strategies Whitepaper



This draft document provides detailed information about a number of performance-based parking pricing project that are being piloted around the country. This work is in the process of being updated based on staff comments.