City of Bellevue

CURB MANAGEMENT PLAN

Appendix B: Curb Pilot Roadmap

2023

INTRODUCTION

The changing nature of the curb necessitates an ethos of innovation, experimentation, and partnership. In addition to facilitating the crucial curb uses identified within the city's Curb Typology, Bellevue also aims to leverage the curb as a platform to evaluate new management, policy, and information sharing strategies. Bellevue's Curb Pilot Roadmap is a tool to further the vision of creating a vibrant, safe, and inclusive curbside environment that remains responsive to changing demand.

The Roadmap is oriented to Bellevue's overarching goals and specific context including past curb pilot efforts and current constraints. The Roadmap articulates key curb user and management problem areas and profiles priority pilots to evaluate new approaches to curb management, operations, experiences, information, safety, permitting and processes, and more.

Why does Bellevue Need a Curb Pilot Roadmap?

Bellevue's curb plays host to far too many problems for the City to solve at once. While the CMP establishes a policy and operations framework to address conflicts at the curb, some project-based pilot ideas need to be prioritized given limited resources. The Curb Pilot Roadmap:

- Establishes key problem areas and priority solutions to test through curb pilots.
- Outlines considerations for curb pilots, including guidance on planning, launch, execution, and evaluation.
- Profiles six priority pilots, including implementation considerations and tactical next steps for pilot delivery.
- Documents considerations for recommended long-term pilots.

Creating the Roadmap

Concepts included in the Curb Pilot Roadmap were informed through public engagement, reviewing nationwide best practices, and discussions with trusted partners during CMP development. Several primary activities created the foundation for recommendations:

- Public engagement activities, including focus groups and the Curb Summit event held in early 2022, helped provide insight into present day curb challenges and initial approaches to solving issues.
- A Curb Pilot Workshop, held in October 2022, reaffirmed best practices, brainstormed ideas, and identified Bellevue-specific curb challenges that pilot projects could help address. Attendees included the project team along with representatives from University of Washington's Urban Freight Lab, the Open Mobility Foundation, and King County Metro Transit.

Curb Pilot Principles and Practices

The project team established curb pilot principles and practices to ensure consistency and completeness across all curb pilots.

Curb Pilot Principles

The City of Bellevue has demonstrated a commitment to pilot design and delivery in accordance with the following principles:

- Advance the policy direction and outcomes reflected in the Curb Management Plan
- Utilize Bellevue's specific Curb Typology
- Design for inclusion, with a particular emphasis on historically underrepresented communities
- Evaluate and report progress and findings
- Engage and communicate with the public
- Build pilots based on strong partnerships

Curb Pilot Practices

The following are the most impactful practices for Bellevue to consider when developing curb pilots. The list of practices below is not comprehensive, but rather a set of practices that should be prioritized to ensure high-quality pilot design and effective delivery.

PRIORITIZE EQUITY AND INCLUSION:

- **Technology access:** While many pilots are technology-driven, they should not be based exclusively on modern technology. For example, drivers for delivery companies should have access to both mobile-based and analog-based payment or information systems.
- **Multiingual Information:** Bellevue will develop multilingual information materials and pilot features.
- **Vendor selection:** As it evaluates vendors, the City should incorporate equity screening criteria. For example, future Request For Proposals (RFPs) or similar solicitations should include prompts that request vendors to provide multiple payment and access options, list strategies for community engagement, and identify productive public feedback processes.
- **Community Input:** Bellevue should seek guidance from local community members on potential locations while also considering local context and stakeholder feedback. The city should include budget to potentially compensate vulnerable populations for their input and engagement.
- **Community education:** Pilot design and deployment must include educational components to allow community members to better understand changes and benefits. Bellevue and its partners should educate the community through a variety of methods and settings. The City can collaborate with vendors, local partners, and organizations to further community engagement and education efforts.

CONFIRM REGULATORY AUTHORITY

- **Collaborate with legal experts:** Pilot managers should confirm with internal legal teams to ensure that Bellevue has regulatory authority to deploy the project.
- **Confirm department responsibility:** Most curb-based pilot projects are assumed to be led by the Transportation Department, with close collaboration from Development Services, Community Development, and the City Attorney's Office.

COMMUNICATE CLEARLY AND PROACTIVELY

- **Planning:** The City should educate the public about upcoming pilot activity several months before and after launch.
- **Accessible communication:** The City should ensure communications are multilingual and clear for all public audiences.
- **Disposition planning:** The City should announce the pilot's conclusion to update all City staff and the general public. It should update websites for pilots it is no longer actively managing and require vendors to create a disposition plan for physical infrastructure.

ENSURE CITY CAPACITY

- **Operations and maintenance:** The City should also allocate resources to actively manage and sustain the pilot for its full duration.
- **Project Management:** Bellevue staff overseeing pilots should ensure that core project team personnel maintain activity during the project.
- **Partnerships:** Bellevue staff should utilize partner organizations, whether academic or community-based, for assistance with data collection, engagement, and evaluation capacity during the pilot.
- **Enforcement:** Bellevue staff should determine enforcement capacity before pilot launch.

VET PARTNERS THOROUGHLY

- **Outcome-oriented pilot scoping:** Ahead of confirming vendor partners, Bellevue should establish a thorough scope with roles, responsibilities, and performance measures that are aligned with the preferred outcomes outlined in the CMP.
- **Acknowledge crowded and evolving market:** As of 2023, there are a growing number of curb management technology companies. Before engaging with vendors, the City should first understand the range of curb management solutions and identify which are aligned with the problem the pilot aims to study or address. The City can also consider developing a bench or on-call contract for a wide range of curb technology vendors, operators, and consultants to efficiently launch pilots and other curb initiatives.
- **Technological capabilities:** The City should request that companies prove their capabilities, either through a demonstration or through references from other cities (including reference contact information and/or pilot evaluations or reports).

CREATE STRONG DATA SHARING PRINCIPLES

- **Data sharing:** Private vendors within the curb management field have sometimes been reluctant to share data with public entities. Bellevue should establish data sharing requirements within the scope of pilot projects and identify required information to be publicized.
- **Data communications format:** The City should consider the format in which vendors share data and consider requiring standardization of APIs, such as through the Curb Data Specification.
- **Data ownership:** Pilot managers should collaborate with Bellevue IT and Smart Mobility teams to ensure that the city owns data upon pilot conclusion. Once the vendor agrees to City ownership, Bellevue should determine whether their terms of data ownership require any ongoing costs.

- **Privacy and accuracy:** Bellevue should assess the vendor's data privacy policies and the quality and accuracy of its data. Many start-up companies within the curb management field are continuing to develop and refine their services, so it is crucial to specify privacy requirements within each pilot scope.

EVALUATE PERFORMANCE

- **Pilot metrics:** At a pilot's onset, Bellevue should work with its vendors and community stakeholders to identify key metrics that will determine pilot success. Focusing on a few key priority metrics will allow more effective tracking of progress.
- **Ongoing evaluation:** Bellevue should regularly track pilot partners and data to determine if the project is meeting its goals. This would allow the City to pivot and test changes while the pilot is running. Meetings held every other week would help track progress and troubleshoot issues.
- **Continuation and scaling:** In the month leading up to the pilot's conclusion, the City should consider adapting the pilot into a permanent program. Bellevue should avoid gaps in operation or service if the pilot is deemed useful. Alternatively, Bellevue should feel comfortable allowing the pilot to end at its planned close-out date if a forward path is deemed infeasible.

PRIORITY PROBLEM AREAS

Through a collaborative prioritization process, City and partner representatives identified several priority problem areas to solve through pilots. Problem statements were developed from the State of the Curb, stakeholder interviews, and the Curb Summit. Focusing City resources on the highest priority pilots will result in optimal pilot delivery and outcomes.

Problem statements and associated priority levels and implementation timelines are identified below. Pilots were conceptualized to address both near-term and long-term challenges.

Priority Problem Statements

Category	Problem Statement	Priority Level	Implementation Timeline
Curb Use	Need to eliminate auto/delivery conflicts with transit, bike, and pedestrian movement at the curb	High	Near-Term (0-2 years)
	Curbs are generally inflexible and single use (e.g., passenger, freight loading, and parcel delivery are regulated as one category)	Mid	Long-Term (Beyond 2 years)
	Not enough passenger and commercial vehicle loading zones due to growing delivery/ridehail demand	Mid	Near-Term (0-2 years)
Curb Network and Information	Imbalance between the curb's throughput, access/delivery, and place functions	High	Long-Term (Beyond 2 years)
	Perception of parking difficulty: lack of parking at the curb, parking is hard to find, and/or there is a low awareness of off-street parking options	Mid	Near-Term (0-2 years)
Curb Processes	No systematic way to collect, update, manage, and communicate curb data	High	Near-Term (0-2 years)
	Inability to effectively enforce curb regulations (such as loading and lane blockages)	Mid	Near-Term (0-2 years)

PILOT PRIORITIES

The following section describes the six priority pilot concepts to test and drive forward over the next few years based on Bellevue's goals, constraints, and priority problem statements.

Problem Statements and Associated Pilot Concepts

Category	Priority	Problem Statement	Pilot Concepts					
			Low Emission Delivery Zones	Shared AV Ridehail Loading and Digital Curb	"On-Street to Off-Street" Curb Diversion (Commercial and Personal Vehicles)	Loading Zone Supply / Demand Alignment	API Standardization via CDS	Internal Agile Process for Real-Time Workflow, Asset Information, and Regulation Updates
Curb Use	High	Auto/delivery conflicts with transit, bike, and ped movements	✔	✔	✔			
	Mid	Curbs are inflexible and single use	✔	✔	✔	✔		
	Mid	Lack of passenger and commercial vehicle loading zones	✔	✔	✔			
Curb Network and Information	High	Imbalance between curb's throughput, access, and place functions	✔		✔	✔		✔
	Mid	Perception of parking difficulty	✔	✔	✔	✔		
Curb Processes	High	No systematic way to collect, update, manage, and communicate curb data				✔	✔	✔
	Mid	Inability to enforce curb regulations		✔			✔	✔

ENFORCEMENT: THE LYNCHPIN TO SUCCESS

Equitable and effective enforcement is crucial for the success of curb pilot. However, politics, legislative barriers, and capacity limitations can constrain efforts. Below are several enforcement strategies that help mitigate these constraints.

- Engage with vulnerable populations to ensure enforcement design is fair, just, and devoid of explicit or implicit discrimination.
- Collect data on violations, lost revenue, and safety incidents to determine the appropriate level of pilot enforcement.

- Begin pilot enforcement with an initial education period prior to issuing citations. Consider delegating certain responsibilities to organizations outside the Police Department— such as a curbside enforcement contractor—to increase capacity for monitoring violations.
- Leverage technology and automation to reduce staffing requirements and provide capability to enforce short duration violations (e.g., pick-up and drop-off in prohibited areas).

Low Emission Delivery Zones

Image: Urban Movement Labs

RELEVANT PROBLEM STATEMENTS

✓ ✓ ✓

RGHOLYHUFRQLPPHDVDUHLQHLEDHNRISDVVHQHUDQG ZLJIDQVLELNHDQDQGVLQFHPHVH commercial vehicle nce betwee Perception of No systematic wa Inability to enforce
SHGPRYHPHPV curb's throughput S D U N L Q J b to collect, update, F X U E b U H J
access, and plac manage, and
functions communicate curb (

Pilot Definition

Bellevue should test dedicated curb space for innovative low or no emissions commercial delivery modes and methods. Low emission delivery zones (LEDZ) will serve as testbeds for new vehicle types, modes, and processes that can be scaled over time. To encourage innovation, pilot partners can propose new ideas and expand eligible delivery concepts over the course of the pilot. Eligible uses include:

- Electric cars and light duty trucks
- E-bikes, e-cargo bikes, and other micromobility concepts
- Common lockers or delivery hubs at the zone
- Delivery aggregation and microhubs to distribute packages

Pilot Location(s)

Curbs in the Urban Core with a combination of commercial density and residential density and significant on-street delivery activities. Engage delivery partners to select specific sites.

Delivery Timeline

- Months 1–3: Initial data collection and zone siting
- Months 4–9: Technology vendor selection, scope development, procurement, permitting for participating commercial operators
- Months 10–12: Education period
- Months 13–24: Pilot deployment
- Month 25: Publish assessment report

Vision Alignment

This pilot is designed to test emerging delivery technology, enforcement, and incentivizes operators to innovate and more quickly deploy low-emission delivery vehicles. Diverting commercial loading into the zones will also free up curb space for other uses. The pilot is also aligned with goals stated in the city's Environmental Stewardship Plan.

Impacted Population

- Communities adjacent to zones
- Small and local businesses
- Commercial delivery drivers
- Mobility service providers

Implementation Guidance

PARAMETERS

- Define requirements for eligible delivery vehicles and other applicable infrastructure.
- Consider time restrictions for LEDZs to ensure curb spaces are well used. For example, some LEDZs could be active during the peak period to help reduce air pollution.
- Define fee structures for eligible and ineligible users.
- Determine the initial location of zones, balancing supply to incentivize commercial operators to invest in low-emission delivery.

REQUIREMENTS

- This pilot concept requires staff capacity to evaluate LEDZs, review progress, and expand zones and zone enforcement over time.
- The City will need to create a new permit that allow for user and mode restrictions in LEDZs. After the City designates the first few zones, property owners and adjacent businesses should be able to request LEDZs similar to conventional commercial vehicle loading zones.

COMMUNITY

- Identify champions to foster a supportive environment, provide feedback, and ensure the longevity of the program.
- For businesses who lack the resources to invest in new delivery concepts, Bellevue will explore grant funding and supportive programs such as subsidized e-cargo bikes.

ENFORCEMENT

- In addition to enforcing misuse of LEDZs, Bellevue can encourage participation through policy and financial incentives.
- Assess the suitability of automated enforcement processes and technologies.
- Active enforcement of both the LEDZ and adjacent curbside spaces will further encourage behavior change.
- Bellevue can launch enforcement in two phases:
  - **Phase 1: Education** – During the first three months of the pilot, the LEDZs will be temporarily delineated through signage, bollards, and paint. City staff, enforcement personnel and other partners will educate the public about the appropriate uses of the zones.
  - **Phase 2: Enforcement** – After the first three months of the pilot, enforcement officers and/or automated enforcement technologies will impose penalties for non-compliance of the zones and areas adjacent to the zones.

EVALUATION

Potential Metrics

- Experience of delivery drivers (time saved, safety)
- Dwell time
- Emission reductions
- Experience of other curb users (other drivers, walkers, cyclists, etc.)
- Number of unsafe and/or illegal loading incidents (double parking, blocking a crosswalk or median)
- Zone utilization vs. commercial loading in other zones or illegal curbs
- Percentage of local or small business participation
- Number of participating operators
- Number of zones
- Number of near misses

Methods

- Enforcement reports
- Public surveys (drivers and other community stakeholders)
- Automated zone monitoring and associated data collection

Image: Flickr user Marco Verch (Creative Commons)

Shared AV Loading and Digital Curb

Pilot Definition

Bellevue's 2023 Autonomous Vehicle (AV) Strategic Vision identified multiple steps Bellevue and the region should take to prepare for the arrival of AVs. One of the key factors in supporting AV services is providing adequate space at the curb for these vehicles to legally perform pick-up and drop-off activity. The city and its regional partners will need to work closely together to ensure that AV operations in a dense urban environment are performing safely and efficiently at the curb.

Any pilot using AV technology would have the following phased deployment approach:

- **Phase 1: Operational Performance Evaluation** – Develop a common understanding of the service being provided and how the curb will be used. Determine how to encourage use of private pick-up/drop-off space where available and determine where space may be required in the public realm to supplement the private facilities.
- **Phase 2: Digital Mapping** – AV technology requires a detailed digital map of the built environment to safely navigate and make intended stops. A key component to the mapping is determining where curb activities can take place. During this phase, operator(s) will create this map, engage in community outreach, refine the pilot territory, and test its technology in Bellevue's specific weather and curb conditions.
- **Phase 3: Testing and Deployment** – Establish performance criteria for the proposed service. Work with mobility service partners to evaluate curb use throughout the life of the service and coordinate with city to develop a transition plan between testing and deployment.

Pilot Location(s)

Considerations for selecting pilot locations:

- **Safety:** Adequate public and private space to access the proposed service is critical to support our curb management principles.
- **Demand:** Anticipated high ridership locations will need careful consideration for safe access to the proposed service.
- **Equity:** Bellevue should consider deployment or service that supports communities underserved by public transit or face other mobility challenges.

Delivery Timeline

PHASE 1: OPERATIONAL PERFORMANCE EVALUATION

- Months 1–6: Define scope of service and address pilot location considerations

PHASE 2: DIGITAL CURB MAPPING

- Months 7–12: Perform digital mapping of the operational environment and curb; and begin public outreach

PHASE 3: TESTING AND DEPLOYMENT

- Months 13–24: Identify performance criteria, collect data and fine tune service

Vision Alignment

Operators are identifying ways to harness autonomous innovation and new mobility technologies to achieve various municipal goals. With the growing innovation in this sector, Bellevue can leverage the opportunity to incorporate new technology into its transportation ecosystem on its own terms to further sustainability, safety, economic and equity goals.

Impacted Population

- Mobility service providers (transit operators, taxis, ridehail) and associated unions.
- Traveling public
- Local businesses
- Local property owners

Implementation Guidance

PARAMETERS

- Consider all forms of AV mobility when planning for the implementation of this technology and its relationship with the curbside. As an example, robotaxis and shuttles provide different types of service but have similar access needs.
- Partnership is key to the success of any proposed AV service. This could include finding funding partners in the business community for services that are dedicated to Bellevue. Tracking performance and compliance with local rules also requires close partnership with the operator(s).
- Look to other jurisdictions for lessons learned from similar AV mobility services. The Autonomous Vehicle Strategic Vision provides many considerations for future deployments.

REQUIREMENTS

- Assure future AV mobility services integrate well with other services offered in Bellevue. For example, look for ways to support public transit and not duplicate its service.
- Clear criteria must be established for operating on Bellevue's busy streets to avoid creating new operational issues.
- AV services must comply with all state regulations and motor vehicle laws.

COMMUNITY

- There is an overall lack of public familiarity and comfort with autonomous mobility, so community awareness campaigns are important. Operators should host demonstrations and events to showcase the technology. They should also be available to answer questions from City staff, residents, and community organizations about the technology. The City should collaborate with transit agencies to test shared autonomous technologies at major transit hubs.

ENFORCEMENT

- Enforcement and first responder stakeholders should be included early in the pilot planning process.
- Bellevue should require that operators agree to enforcement protocols or provide enforcement interaction plans before commencing each phase.

EVALUATION

Potential Metrics

- Accuracy of digital map layer
- Number of single occupancy vehicle rides eliminated
- Number of safety incidents
- Number of traffic violations or lane stoppages
- Percentage change in emissions
- Utilization of passenger pick-up zones

Methods

- Police reports
- Operator data
- Automated zone monitoring

P.3

"On-Street to Off-Street" Curb Diversion Pilot

Image: City of Asheville, NC

RELEVANT PROBLEM STATEMENTS

✓   ✓   ✓

RGHOLYHUFRQLFV XUEV DU Lack of passenger PEDODQFHHZHEQFHSHLRQRI No systematic wa Inability to enforce
ZLUDQVLELNHDQG QGbVLQ commercial vehicl FUEVURSL SDUNLQFLFDI to collect, update, FXUEbUHJ
SHGPRYHPHQV ORDGLQJ DFHVVDQGSODFH manage, and
IRFLRQV communicate curb c

Pilot Definition

Bellevue can divert commercial and personal vehicles away from the curb and to safer, off-street parking locations for longer term or recurring loading. This pilot has two phases:

Phase 1: Personal Vehicles – Bellevue should partner with a technology company to monitor occupancy for several off-street parking facilities. The vendor will then communicate real-time availability of off-street parking facilities to help divert vehicles away from the curb. Availability can be displayed to drivers via an app, web portal, or digital wayfinding and signage. This pilot phase can be deployed incrementally, beginning with a limited number of private parking garages and lots.

Phase 2: Commercial Vehicles – Bellevue should encourage commercial delivery drivers to use available on-site loading bays, rather than curb space, for most deliveries. Locations of existing loading bays should be mapped and broadcasted with commercial operators. The City should work with property owners and commercial operators to determine strategies that would increase loading bay utilization.

Pilot Location(s)

Select buildings with load bays and publicly available parking garages that are in areas with high frequency of illegally parked delivery vehicles and heavily used on-street parking.

Delivery Timeline

PHASE 1: PERSONAL VEHICLES

- Months 1–3: Procurement
- Months 4–5: Data collection
- Months 6-12: Pilot deployment

PHASE 2: COMMERCIAL VEHICLES

- Month 13–18: Information gathering and mapping
- Months 19–24: Assessment and trial of policy, operations, incentives, and penalties
- Month 25: Publish assessment report for both phases
- Month 25–beyond: Explore permanent integration and solutions

Vision Alignment

Diverting drivers away from the curb will increase reliable access to parking and safe locations for deliveries. It may also reduce congestion, provide more availability within on-street parking and loading zones, and allow for new types of curb uses (i.e., micromobility parking zones, employer shuttle zones, passenger loading zones). Better diversion tactics may also improve the safety and aesthetic of the curbside environment.

Impacted Population

- Drivers
- Commercial drivers who make recurring deliveries in large buildings
- Businesses and residents who receive deliveries

Implementation Guidance

PARAMETERS

Personal Vehicles

- Prominently display off-street occupancy signage and on-street time and use restrictions in high traffic locations.
- Integrate off-street parking occupancy with other parking technology such as paid parking mobile apps.

Commercial Vehicles

- Partner with private building owners that observe high volumes of deliveries to identify mutually beneficial outcomes.
- Establish communication protocols with delivery drivers.

REQUIREMENTS

- Collect data from operators and buildings (if available) on utilization of loading bays.
- Test occupancy monitoring technology before displaying off-street parking occupancy to the public.

COMMUNITY

- Partner with private garage owners to display availability within off-street lots.
- Survey buildings that receive high volumes of freight deliveries to understand pain points, delivery needs and process improvement areas.

ENFORCEMENT

- Partner with law enforcement to increase monitoring of on-street commercial loading.
- Pair greater enforcement efforts with incentives to encourage legal loading activity.
- Encourage building owners to monitor loading bay utilization and compliance.

EVALUATION

Potential Metrics

- Instances of unsafe loading behavior
- Dwell time
- Number of parking or curbside lane violations
- Cruising time
- Public survey: ease of finding short-term, on-street parking
- Freight loading bay utilization percentage

Methods

- Driver surveys
- Commercial operator data
- Building data

Loading Zone Supply/Demand Alignment

RELEVANT PROBLEM STATEMENTS

✓ ✓ ✓ ✓

RGHOLYHUFRQLPEEVDUHLQHLEDWKRISDVVHQJHUEDQG ZLUDQVLELNHDDQGVLQHQHWH commercial vehicle DV/
SHGPRYHPHQWV

Perception of No systematic wa Inability to enforce
S D U N L Q J b to collect, update, F X U E b U H J
manage, and
communicate curb (

Pilot Definition

Bellevue should collect data to understand and quantify any supply/demand mismatches for on-street loading space. This includes comparing supply and demand for passenger versus commercial loading. New zones that meet current demand can be differentiated by use to more specifically match supply with demand.

Pilot Location

Reference data to identify overburdened curbs and high activity loading zones. For commercial loading, high demand locations may include curbside areas near high-density residential buildings and commercial buildings. For passenger loading, high demand locations may include retail destinations, parks, and other dense land uses.

Delivery Timeline

- Months 1–6: Initial data collection
- Months 7–9: Planning loading zone expansion
- Months 10–15: Pilot new zones

Vision Alignment

Bellevue's curbside environment was not originally designed to accommodate the number of uses, modalities, and volume of activity that now exist. Studying and allocating appropriate quantity of curb space to accommodate loading demand will help achieve Bellevue's broader curb goals. Refining loading zones even further to differentiate between commercial and passenger loading will allow for data-driven outcomes at the curb.

Impacted Population

- Commercial delivery drivers
- Businesses and individuals who receive deliveries

Implementation Guidance

PARAMETERS

- Bellevue should partner with a technology vendor to collect differentiated data on passenger versus commercial loading to better understand loading activity.
- Bellevue should require or incentivize data sharing by imposing fees to vendors and/or creating new loading zones.
- The process for siting new loading zones should reference the Curb Typology while also considering equity, environmental, and quality of life criteria, rather than responding ad-hoc to individual requests.

REQUIREMENTS

- Assign geofencing to loading zones in order to digitally communicate locations and collect data.
- Install technology to monitor loading zone utilization.

COMMUNITY

- Coordinate with TNCs, taxis, and other for-hire vehicle operators to collaborate on ways to make passenger loading safer and more efficient.
- Install signage at new or removed loading zones with pilot information and justification.

ENFORCEMENT

- Data collection is the primary component of this pilot, rather than enforcement. The Transportation Department can share data with the Police Department and contracted enforcement personnel to align on the current loading context.
- More deliberate enforcement approaches should be explored as the pilot evolves from pure data collection to zone expansion and differentiation.
- Automated ticketing or invoicing technologies may alleviate some resource constraints, but should be scrutinized to ensure equitable outcomes.

EVALUATION

Potential Metrics

- Utilization of loading zones
- Breakdown of different types of loading (i.e., passenger vs. commercial)
- Percentage of diverted loading zone activity from one location to another
- Number of unsafe loading situations
- Number of illegal loading occurrences

Methods

- Require collection of data from ridehail and for-hire vehicle companies, cell phone records, delivery services, and other sensors.
- Data from City-led data collection efforts
- Police citation and enforcement contractor data

P.5

API Standardization through the Curb Data Specification (CDS)

Image: Open Mobility Foundation

Pilot Definition

The CMP recommends Bellevue to adopt and incorporate the Curb Data Specification (CDS) to manage curb data collection and communications between the City and curb users. This will require the City to update internal processes and test implement standardized application programming interfaces (APIs). This pilot will test CDS' integration into a limited set of curb use cases work in coordination with public and private curb stakeholders.

Pilot Location

N/A

Delivery Timeline

- Months 1–2: Join the OMF and participate in CDS working group
- Months 3–9: Deploy CDS specification within digital format to Bellevue streets; publish digital curb information publicly
- Months 10–beyond: Utilize CDS to begin app-based pilot project

Vision Alignment

Standardizing APIs fosters streamlined and effective communication channels between City staff and the private sector, which benefits all types of curb pilots. Establishing a collaborative relationship with the Open Mobility Foundation (OMF) and other members of the Curb Data Specification working group will develop Bellevue's reputation as an innovator at the curb. Developing a standard method for communicating curb data will support pilot delivery and reduce resources required to administer and evaluate pilots. CDS implementation will also streamline communications with vendors.

Impacted Population

- Private sector mobility providers

Implementation Guidance

PARAMETERS

- Bellevue should proactively inform vendors about data sharing requirements.
- Bellevue can require that vendors who wish to operate in the City must use pre-defined APIs and data specifications. This will allow the City and all operators to communicate efficiently.
- Staff responsible for pilots can connect with other municipalities to learn about how they integrated these conditions, through the Open Mobility Foundation's Working Group or separately.

REQUIREMENTS

- Join the CDS working group and collaborate with likeminded municipalities who are undergoing API and curb technology deployments.
- Assign Bellevue staff members to participate in CDS discussions regularly. A Bellevue project leader should understand both mobility pilot needs, curb data specifications/APIs, and technology/product needs.
- Develop redundancy with CDS management and ensure that multiple staff members are invested in and knowledgeable about CDS.

RELEVANT PROBLEM STATEMENTS

✓ ✓ ✓

COMMUNITY

- Staff managing pilots can connect with other municipalities to learn about nest practices for standardizing communication via data standards.
- Standardizing APIs will likely not impact the majority of Bellevue residents immediately, so a large-scale communications and awareness campaign is not necessary. However, any pilots that leverage CDS should include broad public communication.

ENFORCEMENT

N/A

EVALUATION

Potential Metrics

- Speed of integration with private sector vendors
- Time spent evaluating pilots, curb operations, etc.
- Effectiveness of two-way communication with vendors (# of complaints, NPS)
- Number of new pilots and vendors

Methods

- Operator/vendor feedback: Interviews, surveys, and focus groups
- City staff feedback: interviews, surveys, and focus groups

Internal Agile Processes for Real-Time Workflow, Asset Information, and Regulation Updates

Lack of passenger Imbalance betwee   Perception of
commercial vehicl curb's throughput
access, and place
loading   functions

Pilot Definition

While the other recommended pilot concepts test new technologies and are largely dependent on external vendors, this pilot concept is process-focused, where the City tests a new internal workflow.

With limited staff resources dedicated to curb management, several teams currently share oversight and management of curb data storage and processes. This results in inefficient and burdensome processes for modifying curb regulations and curb access features. The City should pilot a new agile workflow that will produce a streamlined system for storing and modifying curb data. This includes and mapping all existing processes, involved teams, documents, and data sources related to curb assets. The core project team will closely review this process to identify inefficiencies and process improvements. The project team will clearly document a proposed new workflow and repository for all curb asset data.

Pilot Location(s)

N/A

Delivery Timeline

- Months 1–6: Planning, initial piloting for one element of curb management
- Months 7–12: Expand pilot; plan for permanent process implementation

Vision Alignment

Bellevue can further its innovative vision for the curb by simplifying its internal operations and processes. Implementing this process-focused pilot will allow City staff to more efficiently and effectively manage curb operations and foster a culture of innovation to prepare staff /city operations for forward-looking curb management in Bellevue.

Impacted Population

- City staff

Implementation Guidance

PARAMETERS

- Change internal workflows incrementally, with time built in for education, evaluation, and feedback. The City will start with one process change—such as storing and updating paid parking locations.
- Promote transparency across all teams involved with curb management, with clear documentation of changes and roles.

REQUIREMENTS

- Designate a core project team comprised of a project manager and representatives from each team involved with curb management.
- Staff must have a baseline level of technological proficiency to access new data sources and participate in new protocols.
- Project team should lead trainings and "office hours" for staff to ask questions and troubleshoot issues.

COMMUNITY

- Communicate the new processes and highlight positive and negative impacts (if any) the pilot will have. This can be achieved.
- The project team should solicit feedback on the proposed agile workflow from directly involved teams and supportive teams such as information technology and enforcement.

ENFORCEMENT

- Leadership should continue to emphasize and educate staff.
- Each team should designate a staff member who will champion the effort internally, help communicate changes, and escalate feedback.

EVALUATION

Potential Metrics

- Ease of accessing curb information
- Outcomes of other curb pilots (indirect)
- Speed in responding to requests for modified or new curb functions
- Cross-team collaboration within the Transportation Department

Methods

- Employee feedback through surveys and interviews
- Success metrics of other pilots (indirect)

Image: Wikimedia (Creative Commons)

DRAFT 2023-04-07