City of Bellevue

# Transportation Commission Study Session

**DATE:** January 12, 2023

**TO:** Chair Stash and Members of the Transportation Commission

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**SUBJECT:** Curb Management Plan – Curb Typology: Future Vision

**DIRECTION REQUESTED**

| | |
|---|---|
| | Action |
| X | **Discussion**/Direction |
| X | **Information** |

Discussion: At the Transportation Commission meeting on October 13, 2022, staff introduced the concept of Curb Typology. At that meeting, existing curb types were presented and mapped block-by-block. The second component of the Curb Typology is the establishment of future curb types which will inform the long-range vision of a given length of curb space. The Curb Typology references city policies, plans, visions, adjacent land use patterns, and other resources to inform future usage prioritization block-by-block. This memo describes the future Curb Typology process. The project team will present maps, seek concurrence from the Commission, and review comments on the overall approach for determining the future Typology.

**INFORMATION**

Throughout 2022, City staff and the Nelson\Nygaard consulting team have researched best practices for assessing curb supply and developing a curb use prioritization framework. In summer and fall 2022, the project team conducted numerous workshops with a variety of city staff to establish the staff-recommended Curb Typology approach.

*Curb Supply: Recap of Prioritization Framework*

As discussed during the October 13, 2022 Transportation Commission meeting, a prioritization framework for curb space usage and assignment should be established which will help to communicate visions of each block face within the study area. The Curb Typology includes an existing curb type, which describes the generalized use of curb space today. The Curb Typology will also include a future curb type, which translate city plans, policies, and utilization to inform the long-range intent of any given block face within the study area. Principles informing the Curb Typology development will help ensure that changes are rooted within appropriate policy and planning contexts.

*Inputs for Future Curb Type*

The project team reviewed and evaluated numerous references to better inform the future Curb Typology and to root curb-related decisions within the context of existing long-range visions. The sources included the following:

- Council-adopted city planning documents to determine corridor-specific modal priorities.
- Council-adopted city policy language to determine corridors with unique conditions and long-range intentions.
- Administrative references and engineering details.
- Existing datasets on curbside activities, including parking occupancy and macro-level commercial loading and rideshare trends, to identify high-demand corridors.

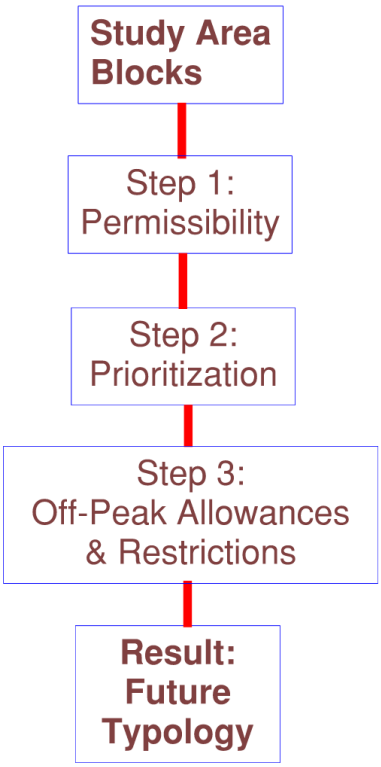
A comprehensive bibliography of the plans, policies, and dataset references used to inform future curb types is shown in Attachment A.

*Development of Future Curb Typology*

The project team layered multiple inputs onto the project study area to highlight overarching goals of individual blocks and corridors. These information sources were then filtered through a process to determine curb use permissibility and prioritization for each curb type.

The high-level process for determining future type is shown in Figure 1 below.

**Figure 1: Future Curb Type designation**




The sorting process includes three steps to determine curb use permissibility, priority, and off-peak allowances & restrictions.

***Step #1: Permissibility***

During the permissibility phase, all public blocks within the study area are initially selected for evaluation. Each corridor is then determined to have a "movement" or "non-movement" indicator based on city-adopted plans, policy guidance, and other data sources. Corridors that have indications of importance in city planning documents are classified to have movement curb types. Indications of importance stem from resources like the Mobility Implementation Plan, the Comprehensive Plan, Pedestrian & Bicycle Transportation Plan, Transit Master Plan, and other policy language. Once a curb face is classified to have a movement curb type, the respective subtypes (auto, bicycle, or transit) are established from further evaluating mode-specific plans, goals, and other reference material. After all movement curbs are established, non-movement curb types (Access, Place, Storage) are assigned on block faces that have less movement-specific utility within the transportation system, such as local streets and some minor arterials. Similar resources and datasets help inform the specific curb type permissibility and assignment on each block face.

The inputs for permissibility are listed in Table 1 below.

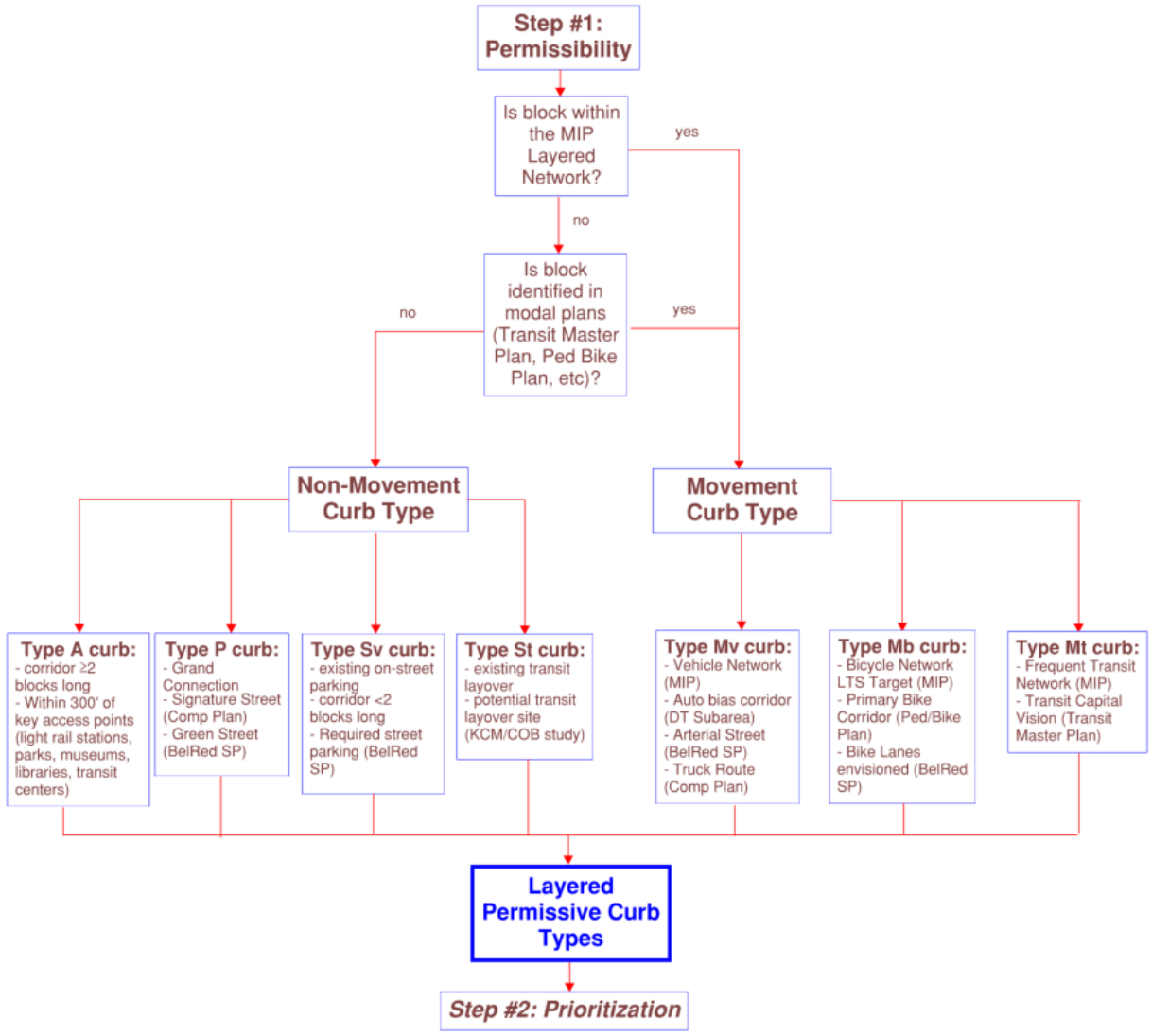
**Table 1: Curb Type Inputs**

| Type (future) | Descriptive Definition | Filters for Permissibility & Prioritization |
|---|---|---|
| **Movement (Auto)** | Curbside lane is used for auto movement for all or part of the day | Primary vehicle corridor in the Mobility Implementation Plan (MIP)<br>Auto bias in Downtown Subarea Plan<br>Arterial Street Type within the BelRed Streetscape Plan<br>Truck Routes as shown in Map TR-8 in the Transportation Element of the Comprehensive Plan |
| **Movement (Transit)** | Curbside lane is used as a transit priority lane for all or part of the day | Transit Priority in Downtown Subarea Plan<br>Frequent Transit Network in the MIP + Transit Master Plan<br>Transit Priority Corridor (1 and 2) in the Downtown Transportation Plan |
| **Movement (bicycle)** | Curbside lane is used as a dedicated bicycle facility (bike lane, protected bike lane, or shared use path) | Bicycle Network route with LTS performance target in MIP<br>Bicycle facility indicated in the Pedestrian & Bicycle Transportation Plan<br>Bicycle facility indicated within the Mobility Network Map in the BelRed Streetscape Plan |
| **Access** | Curbside lane is used for short-term usage b passengers (i.e. rideshare pick-up & drop-off), deliveries, or similar short-term mobility uses | Within 300' of key public access points (light rail stations, parks, museums, libraries, transit centers)<br>Non-movement corridors greater than 2 blocks long[1]<br>Shopping Street in the BelRed Streetscape Plan<br>Local Street in the BelRed Streetscape Plan |
| **Place** | Curbside lane is used as a permanent or temporary pedestrian space (dining, vending, gathering, parklets) | Pedestrian component of Grand Connection Framework<br>Green Street in the BelRed Streetscape Plan<br>Pedestrian Street as permitted in the BelRed Streetscape Plan<br>Pedestrian bias in Downtown Subarea Plan<br>Signature Street in Downtown Subarea Plan |
| **Storage (Auto)** | Curbside lane is used for long-term (greater than 15 minutes) storage use | Non-movement corridors less than 2 blocks long<br>Identified on-street parking in the BelRed Streetscape Plan<br>Existing on-street parking in Downtown |
| **Storage (Transit)** | Curbside lane is used for transit vehicle layover | Existing Transit layover in Study Area<br>Identified potential layover site from King County Metro & City of Bellevue analysis |

[1] Corridors that exist for 2 blocks or longer tend to serve a crucial secondary mobility function within the transportation network and carry larger volumes of traffic than local streets. On these blocks, shorter-term use of the curb should be prioritized over longer-term (i.e. parking) use to maximize the benefit and utility of the respective curb space.

The flow chart illustrating the permissibility phase is shown in Figure 2.

**FIGURE 2: Permissibility Phase for Curb Typology Determination**



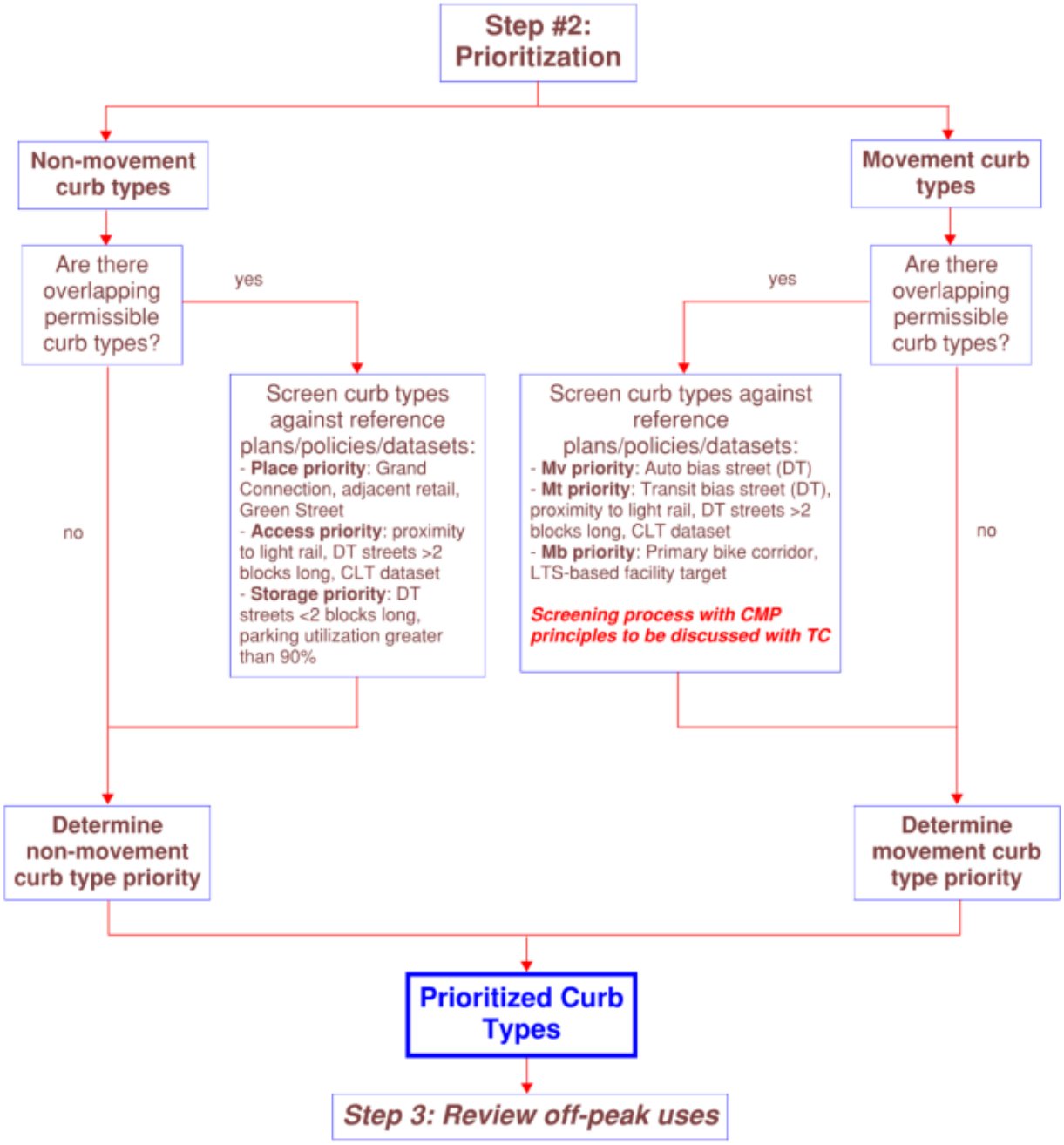

## *Step #2: Prioritization*

During the prioritization phase, all movement and non-movement curb types are isolated and evaluated to see if overlapping curb type permissions exist per block. If any given block has only one curb type assigned from the permissibility phase, then that curb type is marked as the priority curb type in the future Typology. If any given block has two or more curb types assigned from the permissibility phase, the types are screened against reference datasets, plans, and policies to determine priority. Each movement curb subtype (Vehicle, Bicycle, Transit) and non-movement curb type (Access, Place, Storage) has priority indicators that place a higher emphasis on one use over another. Two equal priorities on a given block might be initially identified using references. If this happens, the block is then screened against principles established as part of the Curb Management Plan and other goals outlined within reference documents. For example, high-level goals from the Mobility Implementation Plan – Safety,

Equity, Access, Growth – are used to help determine the future movement subtype where two priorities might initially exist.

The flow chart illustrating the prioritization phase is shown in Figure 3.

**FIGURE 3: Prioritization Phase for Curb Typology Determination**




### *Step #3: Off-Peak Allowances and Restrictions*

In the final phase, allowances and restrictions for off-peak periods are noted per block face. At the meeting on October 13, 2022, Commission members discussed the importance of

establishing flexible curb uses throughout the course of a day and week, and also noted the importance of determining restrictions on uses for certain curb faces. The "off-peak" timeframe focuses on periods outside of the traditional two-hour peak period for traffic in the mornings and evenings.

The table illustrating off-peak allowances and restrictions per curb type is shown in Figure 4.

**FIGURE 4 – Allowances and Restrictions Phase for Curb Typology Determination**

| Primary Curb Type | Off-Peak Allowances | Off-Peak Restrictions |
|---|---|---|
| Mv | Sv curb<br>A curb | Truck Routes<br>Single Lane Arterials |
| Mt | Sv curb<br>A curb | Mt curb serves at least 4 buses/hour during off-peak period[2] |
| Mb | N/A | *No off-peak changes (curb remains Mb 24/7)* |
| A | Sv curb | |
| P | N/A | *Note: P curbs may be seasonal* |
| Sv | A curb | |

Once all three phases have been undertaken for the study area, a comprehensive future Curb Typology is developed. This Curb Typology takes the form of a web-based mapping application that will allow members of the public to review curb type assumptions per block. This web-based map will be shown during the meeting.

*Use of Future Curb Typology*

The curb type permissions, priorities, and off-peak restrictions all help inform decision making on various development, traffic management, and capital projects within the city. Hypothetical examples of utilizing the Curb Typology are shown below:

- **Development Review:**
    - City staff are reviewing a developer proposal located in the study area. Staff can refer to the Curb Typology to determine how the curb space should be designed and operated along the frontage improvements for the site. This feedback is

[2] The value for buses per hour is derived from the Transit Master Plan, which defines "frequent service" as routes that operate every 15 minutes or better, seven days a week.

provided back to the developer and incorporated into the planned project based on the impacts of the proposal.

  - A developer wants to incorporate an on-street parklet area within a required parking lane along a street. Development review staff refers to the Curb Typology and checks if the curb face allows or restricts "Place" features to determine if a parklet would be allowed as proposed. If allowed, the developer can advance with design details to seamlessly pair the sidewalk environment with the parklet.

- **Mobility Operations:**
  - City engineers receive a request from a retailer to install a 15-minute load zone along the curbside near their business to assist with freight and passenger loading. Engineering staff refer to the Curb Typology to determine if loading is permitted or prioritized along that block face. Depending on the curb type, city staff are then able to make an informed decision on curbside operations and either install the load zone signage or inform the retailer why it isn't allowed.
  - A resident calls the city with a request to add overnight on-street parking in a curbside travel lane when traffic is light otherwise. Staff refer to the Curb Typology to determine if this "Storage" curb usage would be allowed in an off-peak setting. If restricted, staff can respond to the resident with justification why it isn't allowed. If allowed, staff will continue analysis if off-peak parking is possible along the block from a safety and operations perspective.
- **Capital Projects**
  - Design engineers are scoped to develop plans for a new roadway in the study area. The ultimate curb line and curbside usage can be informed by the Curb Typology before design begins, which will help streamline review.

**NEXT STEPS**

At the February 9, 2023 Transportation Commission meeting, the project team intends to present draft recommendations within Curb Management Plan and summarize high-level points for consideration before discussing next steps. The Commission will have several opportunities to review and refine material within the CMP before taking final action.

Please feel free to contact me prior to the meeting if you have questions about the agenda materials.