Chapter 9: Curb Space Management

Introduction

There's a lot of competition for potential uses of curb space – parking for personal vehicles, parking for bicycles and scooters, bus stops, bike lanes, outdoor dining, truck loading, ride-share drop-off, landscaping and wells for mature shade trees, electric vehicle charging, and more. The list of what happens at the curb continues to grow with new technologies and new opportunities.

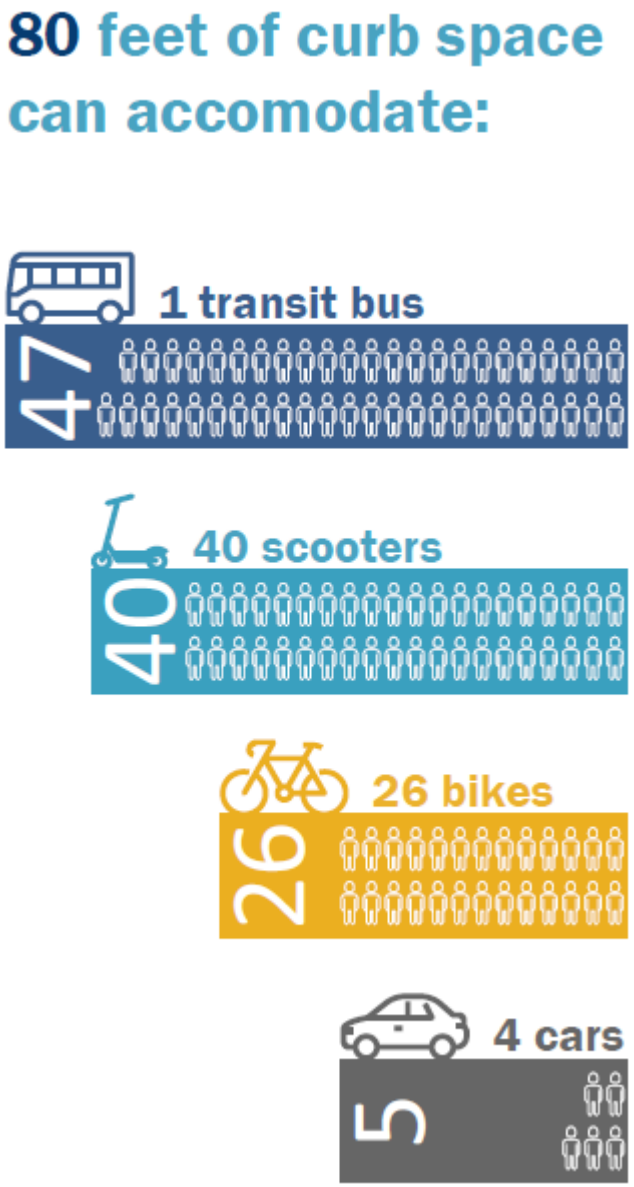
Curb space in Norfolk is a limited asset. Managing this asset will require setting priorities. As Norfolk continues to grow, more space-efficient use of the curbs should be explored to maximize the value of this asset. Curb uses need to be balanced among multiple and sometimes competing goals.

As in most cities, the overwhelming majority of Norfolk's curb space today is used for parking personal vehicles. While on-street parking is crucial in areas with limited off-street parking like some older neighborhoods, an over-allocation of available curb space exclusively to permanent automobile parking in high-activity areas may risk undervaluing this asset. Seeing curb space as the exclusive purview of automobile parking may miss opportunities to use this asset to serve other high-priority curb uses and create a safe and robust network for bicyclists and scooter riders, pedestrians, transit riders, scooters, and other modes.

What is Curb Space?

Curb space is the part of the street that marks the transition from the space where people and vehicles travel to the space where people walk on the sidewalk and enter buildings. Curb space is also the space where both movement and access may conflict, but where both movement and access are needed to serve convenience and commerce.

Curb space traditionally refers to the portion of the street directly adjacent to the curb within the roadway. However, the location and function of curb space has become expanded with the introduction of new uses that span both sides of a curb, such as



parking-protected bike lanes, parklets, on-street restaurant seating, and other new treatments. These treatments sometimes leave the physical curb in place and move curb-side functions further into the roadway away from the curb.

In this plan, curb space is defined as the part of the street next to or near the curb that serves any variety of curb functions, including providing access from the street to buildings , goods delivery, and other uses that will be further defined later in this chapter.

Curb space is flexible. Different uses can be allowed throughout the day and during different days of the week. Curb uses can vary along the length of a block. Curb uses can also be converted using temporary materials as a test or for specific circumstances.

Curb space can be located directly next to the curb or further out into the roadway. Curb space is the part of the street near the curb that serves a variety of curb functions. Image Source: Seattle Department of Transportation.

Managing short term parking in Norfolk's downtown. Image Credit: EPR

Curb space is flexible and can change by time of day. Image Source: Flickr user dumbonyc

Chapter Overview

This chapter presents a framework for establishing curb space priorities and designing curb space to further the City's multimodal goals for safety, freedom, and prosperity.

The curb space management framework is a proactive, flexible, context-based approach to making decisions about what happens at the curb to maximize the benefit of this limited asset.

This chapter begins by defining five different categories of curb uses and identifying the curb uses that fall under each category.

It provides an overview of the curb space management framework and outlines three general steps to designing curb space.

It also includes a matrix that defines general priorities based on land use context and describes the process for selecting curb uses. Design considerations for each curb use are provided.

Finally, this chapter illustrates how to use the framework with a hypothetical example.

Categories of Curb Uses

Most curb activities (or curb uses) can be categorized as serving either a mobility function or an access or other function. For example, a metered parking space allows people in cars to access nearby places for a short period of time (an access function), while a curbside bike lane provides mobility for people riding bikes (a mobility function).

Curb space dedicated to mobility allows people to move through the multimodal transportation network, and curb space dedicated to access provides a place for people to stop, leave the transportation network, and access nearby properties.

Other curb activities, like outdoor dining, serve an amenity function, and still others, like long-term parking, serve a storage function.

In this framework, curb uses are grouped into five different categories:

1. Mobility
2. Access for People
3. Access for Goods
4. Amenities
5. Storage

The following sections describe each category of curb activities and provide examples of curb uses within each category. Each specific curb use is defined later in this chapter.

Multimodal Mobility Curb Uses

Mobility curb uses are those that facilitate multimodal movement of people along a street. Note that automobile mobility uses are not included in this list but are assumed to be part of the existing mobility curb use of many streets without on-street parking.

Curb uses under the Mobility category include:

- Sidewalk extensions
- Curb extensions
- Bicycle lanes
- Bus-only lanes
- Queue jumps

Access for People Curb Uses

Curb space is often the primary interface between the street and buildings – it's where people end their journey and enter a business or their home.

Curb uses within the Access for People category include:

- Bus stops

Shared lane markings on a curbside lane are an example of a curb use under the Multimodal Mobility category.

A bus stop with a shelter and bench is an example of a curb use under the Access for People category.

- Scooter and bicycle parking corrals
- Bike share stations
- Short-term parking spaces
- Taxi and ride-share pick up and drop off zones

Access for Goods Curb Uses

Curbside access for goods delivery is a basic requirement for many businesses that serve urban populations. Some restaurants, stores, and other businesses in mixed-use areas lack off-street loading space and receive deliveries from trucks parked in the curb lane. Residential areas have also seen an increase in goods deliveries with the rise of online shopping.

Curb uses under the Access for Goods category include:

- Loading zones

Amenities Curb Uses

Curb uses in this category provide amenities that improve the livability, resilience, and quality of life of the street and surrounding environment.

Curb uses in the Amenities category include:

- Outdoor dining
- Benches
- Parklets
- Public art
- Wayfinding signage
- Trees
- Bioswales
- Other stormwater management and green infrastructure

Storage Curb Uses

In many parts of Norfolk, curb space provides storage for personal vehicles. Curb space can also provide bus layover storage at end-of-route stops or space for temporary storage of construction materials.

Curb uses in this category include:

- Long-term parking spaces
- Bus layover space
- Construction staging

Loading zones are a curb use in the Access for Goods category. Image Source: Wikimedia Commons.

Parklets and outdoor dining spaces are examples of curb uses in the Amenities category.

Overview of the Curb Space Management Framework

With so many potential curb uses competing for limited space, how can the best use of the limited curb space be determined?

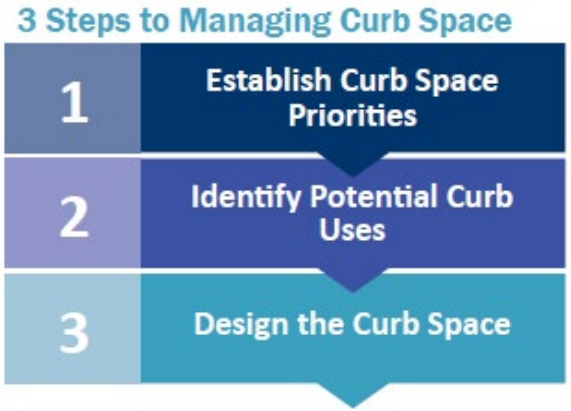
This section describes a three-step framework for establishing curb space priorities and designing curb space to best meet the city's goals for multimodal transportation.

Managing assets requires setting priorities and making decisions in line with those priorities. Each city block has unique needs for curb use and access based on its land uses and role in a transportation network.

The curb space management framework in this chapter provides a process to understand those needs, prioritize them, and determine the optimal configuration to meet those needs within the space available.

It is important to note that curb space management is an inherently dynamic process. As land uses and businesses change on a block, it will be important to ensure that the uses of the curb are well reflective of those changes. In addition, technology changes such as the rise of e-scooters in recent years may cause the reassessment of the curb space management protocols. In general, curb space management should become an ongoing process with regular updates by the city to ensure that it is continuously meeting the overall goals of Multimodal Norfolk.

The curb space framework consists of three general steps.



The following sections describe each of the three steps.

Step 1: Establish Curb Space Priorities

In order to maximize the benefit of the City's curb space assets, it is critical to establish priorities for the use of curb space that align with the Multimodal Transportation Master Plan and best contribute to serving the adjacent land uses.

The first step involves organizing the five curb use categories in order of general priority according to the land use context of a block or segment of street.

Mobility Priorities

Mobility is primarily an issue of a whole transportation network, and priorities for curb uses that fall under the Mobility category are set at the network level. The Modal Emphasis maps in Chapter 4 identify connected networks for each mode – pedestrian, bicycle/scooter, and transit – across the city.

Because mobility needs are determined at the network level, the first priority for curb space in the mobility category is to ensure that the established modal priorities for that street are accommodated appropriately.

FIGURE 9-1: CURB SPACE PRIORITIZATION MATRIX

Priority	Inside a Multimodal Center		Outside a Multimodal Center	
	Mixed Use & Commercial	Residential	Residential	Industrial
1	Mobility: Modal Emphasis		Mobility: Modal Emphasis	
2	Access for People		Access for People	Access for Goods
3	Access for Goods		Storage	Access for People
4	Amenities		Access for Goods	Storage
5	Storage		Amenities	

This table identifies a general list of priorities for curb space depending on the multimodal mobility system needs and the land use context.

Access and Other Priorities

Priorities for curb uses that fall under the other four categories are typically determined by the land use context of each block and the surrounding area. Streets within a Multimodal Center will have different curb space priorities than streets outside of a Multimodal Center. The intensity and type of land uses of the block also shape the prioritization.

Determining General Curb Space Priorities

Determining the general curb space prioritization of a street depends on three questions:

1. What is the modal emphasis of the street?
2. Is the street inside or outside a Multimodal Center?
3. What are the land uses on this block?

To answer the first two questions, refer to the Multimodal System Plan maps in Chapter 4.

To answer the third question, consider the land uses and determine which of the following three broad land use categories best describe the uses along the block:

- mixed use and commercial,
- residential, or
- industrial.

These categories are broad, and choosing the appropriate land use column requires making an assessment of the predominant land use of the block in question.

Based on the answers to these three questions, the Curb Space Prioritization Matrix, shown in **Figure 9-1**, offers a general order of curb space priorities that accounts for the specific land use context.

Step 2: Identify Potential Curb Uses

After defining the general curb space priorities for the street, the next step is to identify potential curb uses that fit within the established priorities. No two blocks are exactly alike and choosing curb uses requires careful consideration of the unique needs of the block.

Curb uses often have a combination of design aspects, including markings and concrete, and usage regulations. Curb regulations define the activity that is permitted to take place, including time of day, duration, and vehicle classification, and are enforceable by the police.

The following sections more fully define the potential curb uses that fall under each category of curb use priority. Curb uses under the mobility category are also broken out by modal emphasis. More detail on design considerations for each curb use is provided in the third and final step.

Curb Uses for Mobility – Transit Modal Emphasis

Bus-Only Lane: A curbside bus lane is one way to prioritize transit mobility in the curb space. A bus-only lane is appropriate where bus speeds are low and travel time is unreliable due to traffic congestion. This treatment is typically applied on a corridor level. Bus lanes can be in effect during certain days of the week and times of day when they provide the greatest improvement to bus performance and allocated to other uses at other times.

Queue Jump: A queue jump is an intersection-approach facility that allows buses to skip past queuing vehicles, reducing intersection delays for buses. This treatment is applied at the intersection level, whereas bus-only lanes are typically applied to corridors. Because queue jumps usually occupy part of the block, it is possible to use the remaining curb space for other priorities. Queue jump lanes can be accompanied by transit-only signals that give buses a head start.

Bus stops are described below under Curb Uses for Access for People because they provide the space where bus riders access nearby properties. Any street with Transit Modal Emphasis should prioritize bus stops as a curb use. If a bus stop is needed on a block, it should be the highest priority curb use.

Curb Uses for Mobility – Bicycle/Scooter Modal Emphasis

Curbside Bike Lane: Bike lanes can be located adjacent to the curb within a block's curb space. Curbside bike lanes can be separated from traffic by a solid white stripe or a larger buffer. Curbside bike lanes are typically in effect 24/7.

Parking-Protected Bike Lane: This type of facility places the bike lane against the curb and places a "floating" parking lane between the bike lane and travel lane(s). When this facility is used, the curb space shifts to the floating parking lane. One benefit of this treatment is that it provides a safe, comfortable bike lane while providing space for other curb functions.

Curb Uses for Mobility - Pedestrian Modal Emphasis

Painted Sidewalk Extension: In places with a high level of pedestrian activity, sidewalks can be extended using paint, bollards, planters, and other non-permanent materials. This treatment leaves the curb in place but shifts curb functions to the space next to the sidewalk extension.

Curb Extension (Neckdown): Curb extensions at crosswalks shorten pedestrian crossing distances and improve safety. Curb extensions work best on streets without curbside moving lanes.

On most streets, pedestrian mobility is adequately provided by sidewalks outside of the curb space. Sidewalk and curb extensions are not needed on every street with pedestrian modal emphasis and are only needed at locations where pedestrian volumes are high or where intersection safety issues can be addressed by adding curb extensions.

Curb Uses for Access for People

Bus Stop: The bus stop is where bus riders begin and end all trips. This is the curb element with the potential for providing the greatest number of people access to a block. Bus stop location is determined by a combination of network and block level factors. Bus stops are typically placed at the end of a block and require careful design to ensure they function well. If it is determined that a bus stop is needed on a block, it should be considered the highest priority curb use regardless of the land use context.

Bike Share Station: Like bus stops, bike share stations are the beginning and ending point of all bike share trips. Bike share stations have the potential to provide a high level of access for people because of the relative space-efficiency of bikes.

Bike & Scooter Parking: Curb space can be used to provide on-street bike and scooter parking. These facilities are often referred to as bike corrals. This element is similar to bike share stations but allow people to park their personal bikes.

Taxi & For-Hire Vehicle Zone: Taxi zones provide a dedicated curb space for taxis and for-hire vehicles to pick up and drop off passengers. This element is highly flexible and can be targeted to specific times of the day when demand is highest, allowing the

space to be used for other priorities at other times.

Short-Term Parking: Short term parking spaces are common in commercial and mixed-use areas. Short-term parking spaces typically limit the duration of parking to one or two hours and charge a small fee for using the space. This element is often used to maximize the number of people who can access a block by encouraging parking turnover.

Curb Uses for Access for Goods

Truck Loading Zone: A truck loading zone is a highly flexible curb element that can be targeted to times of the day when deliveries need to occur. In areas where truck loading zones may be needed, it is helpful to survey businesses on the block to find out how often, when, and how they receive their deliveries. It may be possible for some businesses to choose delivery times that coincide with time-limited truck loading zones.

Curb Uses for Amenities

Street Tree: Trees can be planted in curb space, either in planters or in tree pits. Street trees have many documented benefits, including increased shade for pedestrians, and CO2 capture.

Green Infrastructure: Curb space can be used to install green infrastructure treatments that capture and treat stormwater, improve air quality, and reduce the urban heat island effect.

Parklet: Many cities have experimented with installing small parklets in curb space, both on a temporary and permanent basis. Parklets can increase pedestrian activity and foster a vibrant street life.

Café Dining: In places where the sidewalk is not wide enough for café seating, curb space can be allocated to café seating and tables. Several big American cities have established on-street café seating programs in the past and Norfolk has allowed restaurants to use curb space in response to the COVID-19 pandemic.

Other: Curb space is flexible and can be used for a wide variety of public amenities to improve quality of life and increase the resilience of Norfolk. Other cities have used curb space for public art, wayfinding signs, benches, and many other things.

Curb Uses for Storage

Long-Term Parking: in low-density residential and industrial areas without off-street parking, curb space is often allocated to long-term parking that is free and unrestricted. Curb space is where people store their vehicles for many hours (and potentially days) while they are not needed, such as overnight.

Bus Layover Space: At the beginning and ends of bus routes, layover space is needed for buses while they wait to begin another run. If off-street layover space is unavailable, providing room for layover in the curb space is sometimes necessary.

Construction Staging: Construction projects in dense areas like downtown may require the temporary use of curb space for materials storage and staging if there is no space available on-site. Unlike nearly all the other curb elements described in this plan, construction staging is typically provided on a temporary, as-needed basis, when requested by contractors.

Step 3: Design the Curb Space

After identifying potential curb uses as a general sequence of priorities, the next step is to consider specific design considerations for each potential curb use.

The tables on the following pages describe critical considerations for designing and implementing individual curb uses. These tables are intended to be used after the identification of a prioritized list of potential curb uses to assist in choosing and designing the appropriate curb uses along a specific block.

The tables outline considerations regarding specific land use contexts, implications for interfacing with other curb uses and facilities for other modes, special considerations related to community livability and climate resilience, and whether the curb use has flexibility to be in effect for only a portion of a day and can convert to other uses.

In addition to the design considerations in the following tables, other factors to consider when thinking about converting on-street parking to other uses include *parking turnover* and *parking occupancy*.

The frequency of how often an on-street parking space turns over varies depending on the types of land use and the surrounding context of the area. Parking spaces with high (i.e. frequent) turnover may indicate that people are parking for shorter periods of time, such as to make a quick purchase or run a brief errand. Parking spaces with low (i.e. longer) turnover usually indicate people are parking for longer periods of time. This could be due to the type of trip they are making, regulations that stipulate how long a parked car can remain in one spot, or a combination of both.

Parking occupancy rates – the percentage of time that a parking space has a car parked in it versus being empty – is another factor to consider. Parking spaces with high occupancy typically indicate higher demand for on-street parking uses. However, this too is a function of the regulation of that use. If a space has no time limit, it may have a higher occupancy rate that is due to only one person parking there and leaving their car in the same spot for an extended period of time.

		Design Considerations for 'Mobility' Curb Uses			
		Land Use Context	Interface with Other Modes and Other Curb Uses	Resilience & Livability	Time of Day Flexibility
CURB USE	Queue Jumps	• Appropriate in all land use contexts	• Need to consider bike-bus conflicts	• Improves transit performance • Enhances mobility choices	• Flexible. • Can be in effect during hours when transit performance most impacted by congestion
	Bus Lanes	• Appropriate in all land use contexts	• Need to consider bike-bus conflicts	• Improves transit performance • Enhances mobility choices	• Flexible. • Can be in effect during hours when transit performance most impacted by congestion
	Bike Lanes	• Appropriate in all land use contexts	• Need to consider speed and volume of traffic on street	• Improves safety, comfort of bike riders • Enhances mobility choices	• Not flexible. • In effect 24/7
	Protected Bike Lanes	• Appropriate in all land use contexts	• Provides opportunity for pedestrian refuge islands • Coexists with other curb space uses (short-term parking, loading, etc.)	• Improves safety, comfort of bike riders; enhances mobility choices	• Not flexible. • In effect 24/7

		Design Considerations for 'Access for People' Uses			
		Land Use Context	Interface with Other Modes and Other Curb Uses	Resilience & Livability	Time of Day Flexibility
CURB USE	Bus Stops	• Bus stop location is determined by route-level needs. When a bus stop is needed, it should be high priority compared to other curb uses. • Appropriate in all land use contexts.	• Design to minimize bike-bus conflicts at stops. • Pedestrian access to bus stops is key. Shelters and amenities are desirable. • Typically located at either end of a block.	• Avoid areas that are flood-prone or have drainage issues. • Bus stops increase mobility choice.	• Not flexible. • In effect 24/7.
	Bike, Bike-Share, and Scooter Parking	• Appropriate in mixed-use and commercial areas without on-site parking and in high to moderate density residential areas. • Parking corrals can be located in the street or up on the curb in the amenity zone.	• Can provide buffer between vehicle activity and other uses such as parklets, café seating. • When located adjacent to a transit stop, it facilitates convenient transfer from bike/scooter to transit.	• Encourages sustainable and active transportation modes. • Enhances mobility choice.	• Not flexible. • In effect 24/7.
	Taxi, For-Hire Vehicle, and Private Shuttle Pick-Up & Drop-Off	• Appropriate in dense mixed-use and commercial areas, especially near hotels, theaters, nightclubs, and other land uses that generate for-hire trips.	• Reduces demand for short-term parking. • Facilitates access for people not using personal vehicles. • Can reduce taxi/for-hire vehicle activity in bus stops.	• Improves mobility choices for people not using personal vehicles. • Encourages active street life.	• Flexible. • Can be in effect during high-demand hours, typically evenings and nights.
	Short-term parking	• Appropriate in mixed-use, commercial, and moderately dense areas. • Time restrictions and pricing encourages turnover and increases access	• Parking lanes allow curb extensions at crosswalks • Encouraging curb vacancy reduces double-parking and speeds up transit	• Increases number of people who can use the curb. • Space can be used for other purposes in emergencies	• Flexible. • Can be in effect when other higher-priority curb uses not needed

		Design Considerations for 'Access for Goods' Curb Uses			
		Land Use Context	Interface with other Modes and Other Curb Uses	Resilience & Livability	Time of Day Flexibility
CURB USE	Truck Loading Zones	• Critical for making deliveries in dense mixed-use and commercial areas to avoid double-parking. • Less critical in less dense areas where on-street parking vacancies are common or on low-volume residential streets. • The need for a loading zone depends on the type of adjacent businesses.	• Providing dedicated curb space for loading reduces freight-transit conflicts like double parking and loading in bus stops. • Truck loading can occur in other curb uses such as short-term parking if vacancies are common.	• Goods delivery is essential to commerce and lively activity centers.	• Flexible • Can be in effect during limited hours when deliveries occur. • Business surveys are helpful in determining hours.

		Design Considerations for 'Amenities & Livability' Curb Uses			
		Land Use Context	Interface with other Modes and Other Curb Uses	Resilience & Livability	Time of Day Flexibility
CURB USE	Parklets, Seating, and Dining Spaces	• Appropriate in commercial, mixed-use areas.	• Provides traffic calming benefits. • Useful to people waiting for transit.	• Increases street activity, liveliness, general safety.	• Not flexible • Typically in effect 24/7 due to the need for furniture.
	Trees & Green Infrastructure	• Appropriate in all contexts • Need for green infrastructure driven by topography, city-wide flooding issues.	• Traffic calming benefits all street users. • Trees can provide shade for transit users.	• Green infrastructure provides key resilience benefits • Plantings enhance beauty of the City	• Not flexible • In place 24/7
	Curb Extensions	• Appropriate in all land use contexts, especially areas with high pedestrian activity.	• Can be targeted to areas with high pedestrian crash rate. • Shortens pedestrian crossings; need to consider potential for transit and bikes to use curb space (bus and bike lanes).	• Improves pedestrian safety and comfort • Enhances livability of neighborhoods	• Not flexible • In place 24/7

		Design Considerations for 'Storage' Curb Uses			
		Land Use Context	Interface with other Modes and Other Curb Uses	Resilience & Livability	Time of Day Flexibility
CURB USE	Long term parking	• Appropriate in low-density residential, industrial areas.	• Parking lanes provide opportunity for curb extensions at crosswalks.	• Need to consider flood maps. • Curb parking can reduce need for off-street parking, curb cuts.	• Flexible • Can be in effect off-peak to serve overnight residential parking needs or 24/7
	Bus layover space	• Appropriate in all context. • Need determined by bus routing and staging needs.	• Need to consider bus-bike conflicts.	• Necessary for efficient transit operations.	• Not flexible • Typically in effect 24/7
	Construction staging	• Appropriate in all contexts. • Need determined by availability of on-site construction staging space	• Need to provide safe pedestrian and bike routes through/around construction site. • Need to consider how construction vehicles interact with space.	• Often necessary to construct large, dense buildings that enhance vibrance of City	• Not flexible • Typically in effect 24/7 for the duration of construction.

Input from Businesses and Residents

The framework for determining curb uses also requires proactive communication with the business owners, residents, business associations, civic leagues, and other nearby property owners throughout the decision-making process.

Businesses and residents have unique and various needs for different types of curb uses, and the process to determine the best use of curb space should ensure that these stakeholders have a voice in the process.

Coordination Among City Departments

The process to determine curb uses should also include open and frequent collaborative coordination amongst various City departments. This framework should be integrated into existing departmental planning and decision-making processes.

For example, the Parking Division currently has a process for managing requests for temporarily converting on-street parking for other uses. This process could be expanded to incorporate the proposed curb space management framework described in this chapter.

Assessing Tradeoffs

Changing curb uses involves understanding the benefits and drawbacks. Curb space is limited, and balancing the competing demands means that there will be tradeoffs.

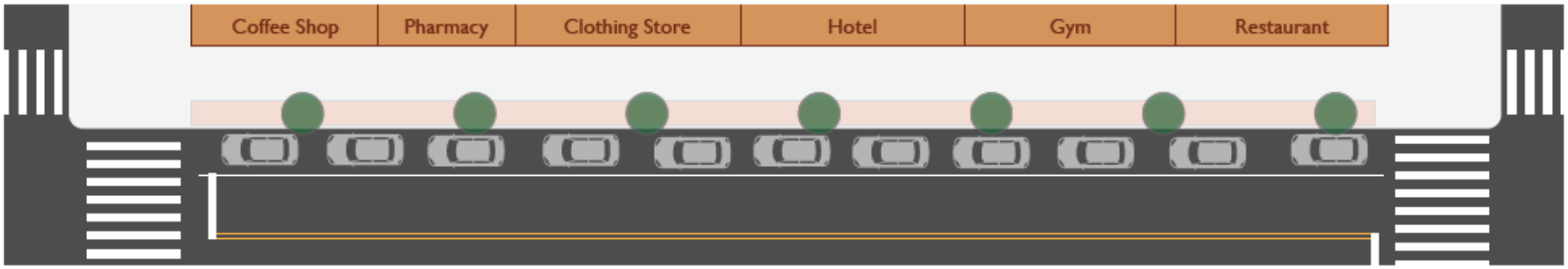
The following list illustrates the variety of potential tradeoffs that should be considered and will vary depending on the unique circumstances of each situation:

- Providing curb space for buses, bicyclists, and scooters increases the capacity of the number of people who can access the land uses within a limited space.
- Diversifying the curb uses along a block may increase the potential for new business patrons.
- Providing curb uses for non-auto modes increases convenience for people to access businesses and residents without relying on driving their own car, increasing choices for how to get around.
- Accommodating non-auto modes within the curb space increases the vibrancy of the community, with more people walking and traveling outside of cars.
- A vibrant community with active street life can attract more businesses and residents, perpetuating the sense of community, place identity, and desirability of the area.
- Metered parking spaces, when available, can facilitate quick and easy access for customers who travel by driving their own vehicle
- Metered parking spaces produce revenue.
- Truck loading/unloading zones provide better access to goods for nearby businesses and can increase business opportunities.
- Taxi and for hire vehicle zones can increase business patron convenience and safety by providing easy alternatives for people to access businesses and residents without having to drive.
- Café seating, parklets, and landscaping encourage people to recreate outdoors, increasing street life and community vibrancy.
- Facilities for bicycling can provide opportunities for active transportation and daily exercise.
- Available and clearly identifiable off-street parking can meet demand for on-street parking spaces.

Using the Curb Space Management Framework – A Hypothetical Example

This section presents an example to demonstrate how to use the curb space management framework to prioritize curb uses and design curb uses along a hypothetical block.

The hypothetical block is in a mixed-use area within a Multimodal Center. The street is home to a variety of businesses and the curb space is currently allocated to metered short-term parking.



This illustration shows the existing curb uses of a hypothetical block, which consists of 11 metered parking spaces during the day and long-term parking overnight. It also shows the land uses along the hypothetical block, which are a mix of various commercial uses on the ground floor, as well as residential uses above.

Step 1: Establish Curb Space Priorities

To identify the appropriate curb use priorities for the hypothetical block, we answer the following questions:

1. What is the modal emphasis?

Transit and Pedestrian.

2. Is it in a Multimodal Center?

Yes.

3. What is the land use context?

Mixed use and commercial.

The answer to these three questions suggests the most appropriate prioritization of curb uses for this block as found in the first column of the prioritization matrix, shown in **Figure 9-2** to the right.

The general priorities for curb space on this block are:

1. Pedestrian and transit mobility
2. Access for people
3. Access for goods
4. Amenities
5. Storage.

FIGURE 9-2: CURB SPACE PRIORITIZATION MATRIX – HYPOTHETICAL EXAMPLE

Priority	Inside a Multimodal Center		Outside a Multimodal Center	
	Mixed Use & Commercial	Residential	Residential	Industrial
1	Mobility: Modal Emphasis		Mobility: Modal Emphasis	
2	Access for People		Access for People	
3	Access for Goods		Storage	Access for Goods
4	Amenities		Access for Goods	Storage
5	Storage		Amenities	

The general order of curb space priorities in this hypothetical example is shown in the first column.

Step 2: Identify Potential Curb Uses

The next step is to identify potential curb uses that fall under each category of curb space priority in the order established.

The list to the right illustrates potential elements that fit within the prioritization for this block. Planners and designers should use professional judgement when selecting elements because not every curb element within the high priority curb use categories will be appropriate or feasible.

The prioritized list of curb elements should be used as a menu of options for building out the curb space of the block.

For example, even though this hypothetical block has pedestrian modal emphasis, sidewalk extensions are not included in the list because the feasibility of sidewalk extensions is driven by factors beyond curb management, and sidewalk extensions are not feasible on this block.

The outcome of this step is a list of potential curb uses in a general order of priority.

Example Curb Priorities and Uses

1. Pedestrian and transit mobility

Curb uses:

Bus stops

Bus lanes

Queue jumps

Curb extensions

2. Access for people

Curb uses:

Taxi/for-hire vehicle zone

Bike/scooter parking

Short-term parking

3. Access for goods

Curb uses:

Truck loading zones

4. Amenities

Curb uses:

Seating/dining

Plantings

Green infrastructure

5. Storage

Curb uses:

Bus layover/staging

Construction staging

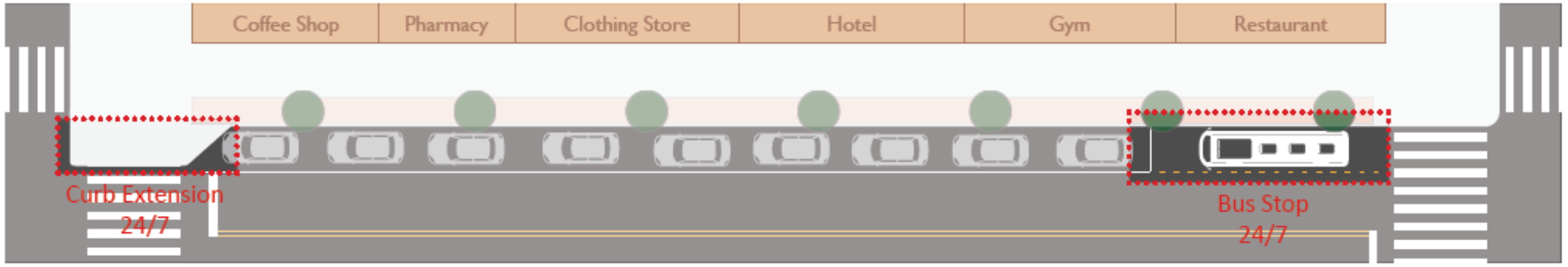
Long-term parking

Step 3: Design the Curb Space

The graphics below show the sequential process to transform the curb uses along the hypothetical block to serve the highest priority needs of the block. Many of the curb uses are applied in a flexible manner to make efficient use of the space during different times of the day.

First considering the Mobility needs, this street segment has both Pedestrian and Transit Modal Emphasis. The parking lane provides an opportunity for a curb extension to shorten the pedestrian crossing distance. In this hypothetical example, the curb radius would be examined to determine if it is sufficient, and in this example, we assume that it is.

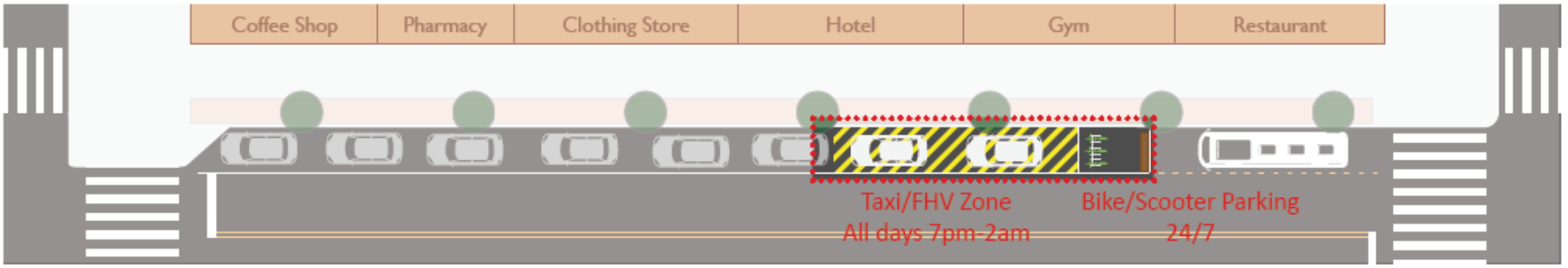
Also, the design of the bus network determines that a bus stop is needed along this block. Two of the existing parking spaces are converted to a bus stop at the end of the block.



A curb extension and a bus stop are added to the curb uses to address the Mobility priority.

Next, considering Access for People needs, the space next to the bus stop was determined, in this hypothetical example, to be ideal to provide bicycle and scooter parking, so that people getting off the bus can easily take a scooter or bicycle to their final destination. One of the parking spaces is converted to bicycle and scooter parking.

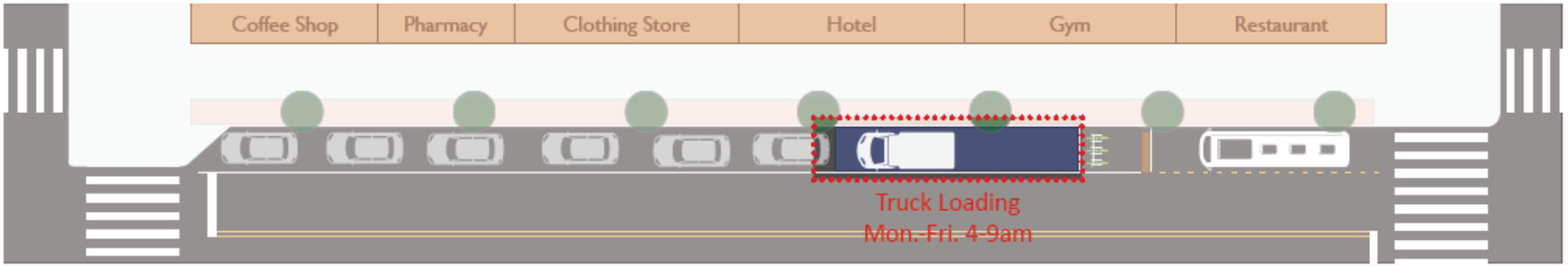
Also, the hotel and restaurant owners in this hypothetical example indicated many of their patrons rely on taxis and for-hire vehicles, and several of the businesses along the other blocks indicated their customers sometimes use for-hire vehicles too. Two of the parking spaces will be used for taxis and for-hire vehicles at the highest demand times, which are in the evening and late night.



Space for bicycle and scooter parking and a taxi and for-hire vehicle zone are added to the curb uses to address the Access for People priority.

At this point, six of the 11 parking spaces remain intact 24/7, which would be metered parking spaces during the day and long-term parking spaces overnight. These short-term parking spaces also contribute to the Access for People needs.

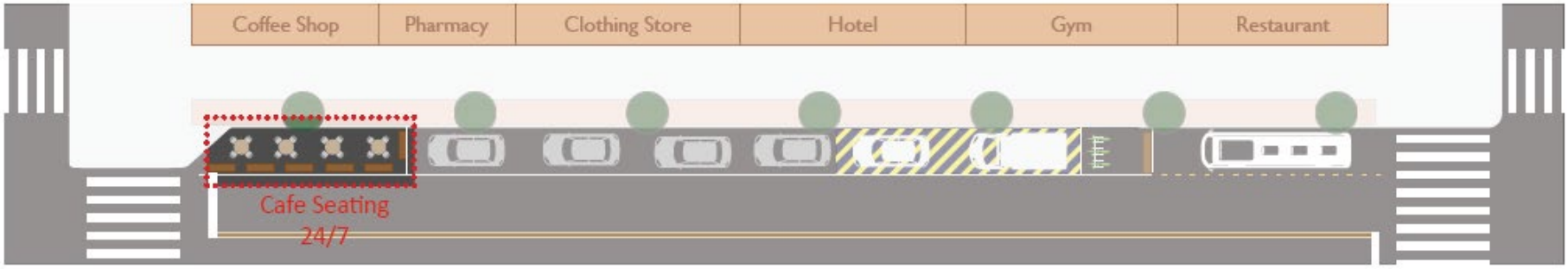
Now, considering the Access for Goods needs, the two spaces that serve as a taxi and for-hire vehicle zone can be used for truck loading in the early morning hours between 4 am and 9 am, which is the business owners indicated was the time of highest demand for deliveries for the uses on this block.



The spaces that are used for taxi and for-hire vehicles in the evening and late night can be used for truck loading and unloading in the early morning, addressing the Access for Goods priority.

To consider the Amenities needs, the businesses and residents indicated that space for outdoor seating would be a great asset. This not only helps add space for the business patrons on this block, but also enlivens the pedestrian realm of the area as a whole. Two parking spaces are converted to café seating.

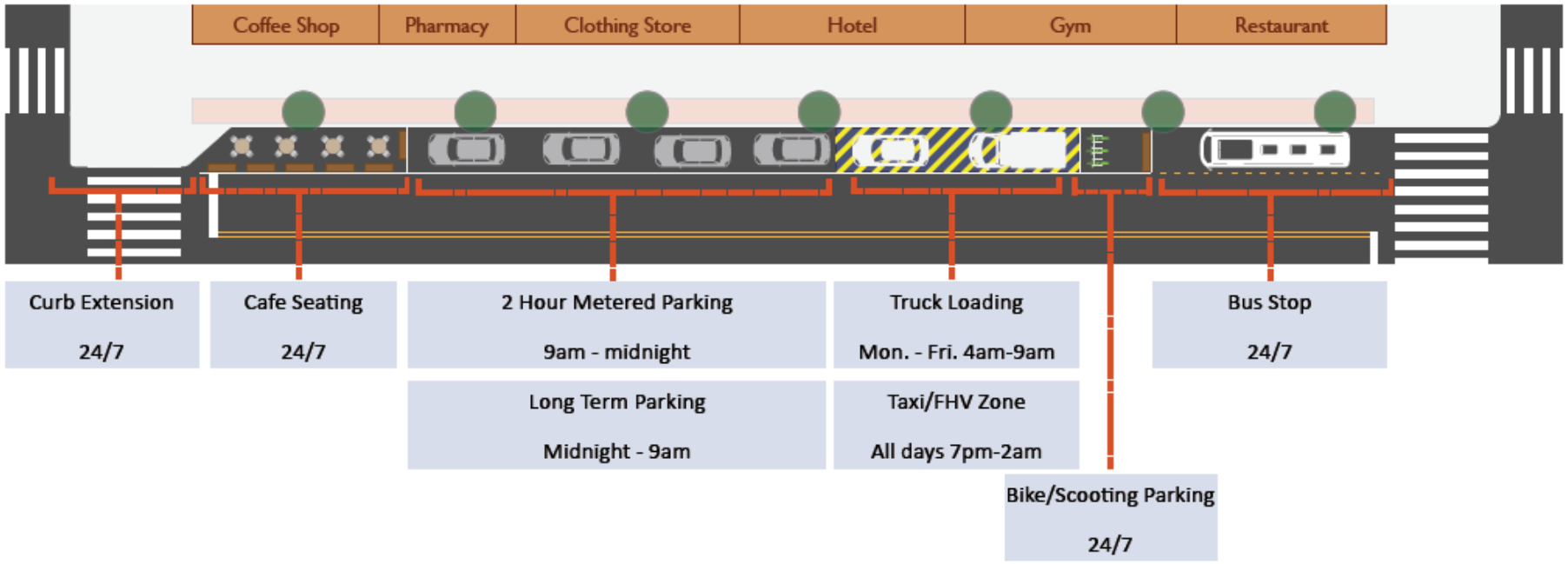
Based on this configuration, four parking spaces now remain for long-term overnight parking, and six parking spaces are available during the daytime for short-term metered parking.



Café seating is added to address the Amenities priority.

Putting It All Together

After designing the curb space for this block, the final design of curb uses is illustrated in the graphic below.



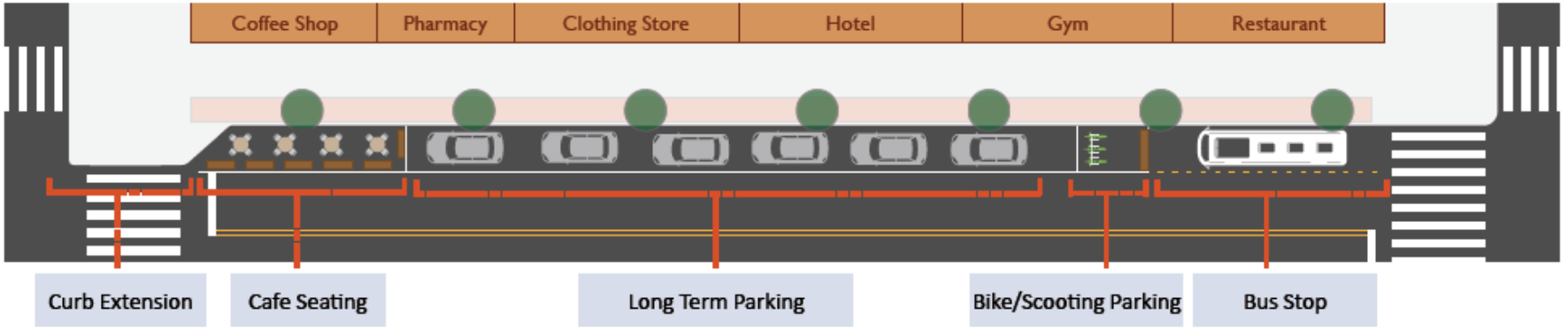
The final design of the curb space in this hypothetical example balances various needs and priorities of different businesses and residents. It addresses all of the various curb use priorities.

Illustrating Time of Day Flexibility

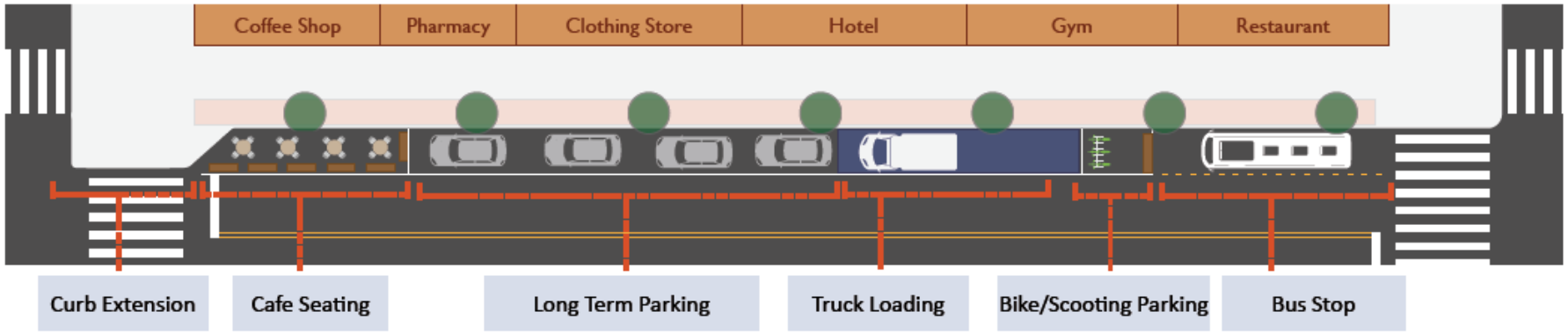
This example illustrates that while curb space is a limited asset, it is also flexible, and uses can change over the course of the day and week. In this example, the composition of the block is different depending on the time of day. Planners can take advantage of flexible elements to accommodate a mix of curb demands that vary by hour.

Enforcement will be key to making this arrangement work and will require additional hours for parking enforcement by either the City's Parking Division staff or a strong partnership with the Norfolk Police Department.

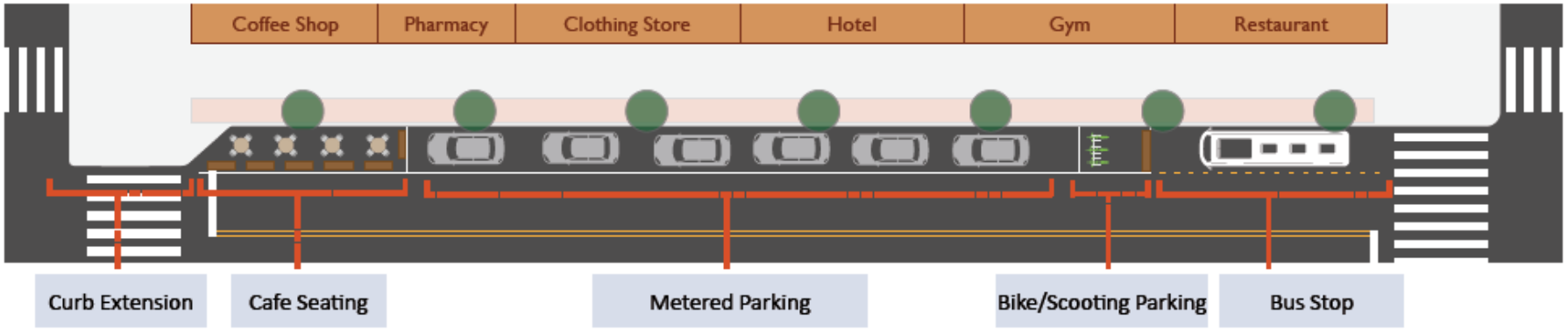
Snapshot: 4am



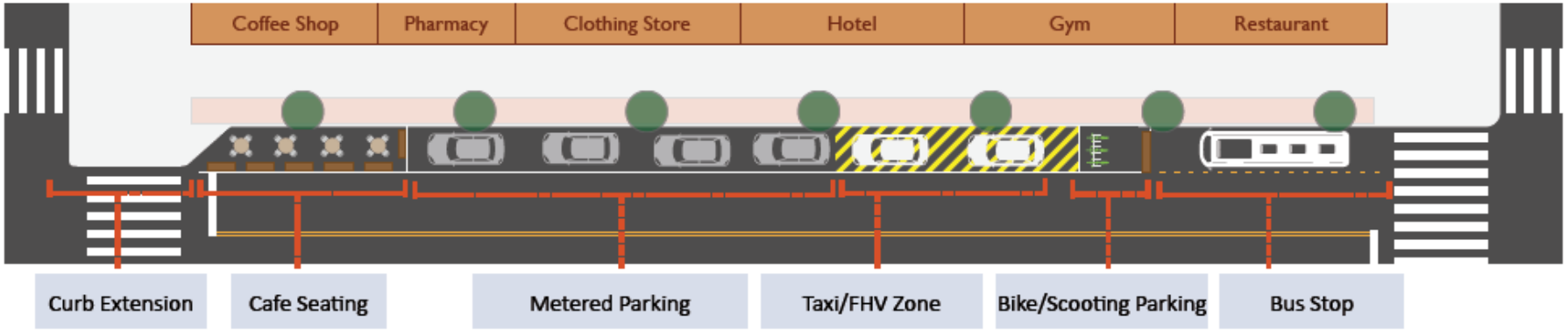
Snapshot: 6am



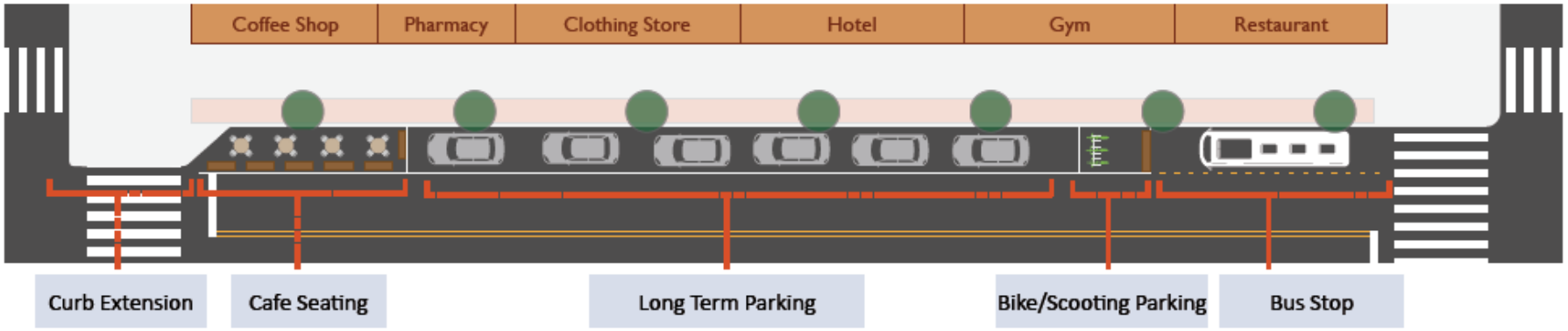
Snapshot: Noon



Snapshot: 8pm



Snapshot: 2am



Chapter Conclusion

Curb space is an often-overlooked part of the street, but it plays a key role in moving people and goods and accessing land uses. There are many different demands competing for the curb, but curb space is flexible and can be managed to accommodate a variety of activities on a block at different times of the day. Because it is not always possible to accommodate every desired curb use on a block, it is critically important to prioritize curb uses and provide a balanced transportation system that advances Norfolk's goals.

Curb space, like the rest of the street right-of-way, can be managed to balance critical needs in space-efficient and beneficial ways and achieve Norfolk's multimodal goals for its transportation system. The above flexible, context-based framework encourages a proactive look at curb space to maximize the number of people and amount of goods that can use curb space to access homes and businesses.