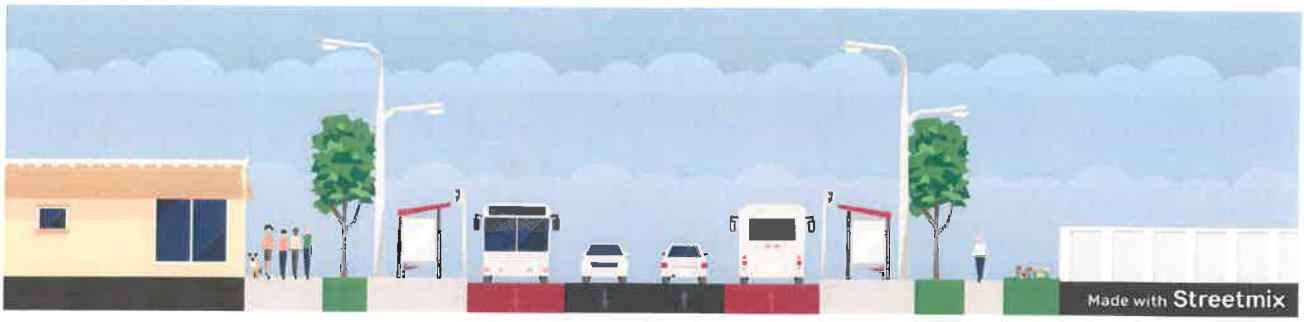
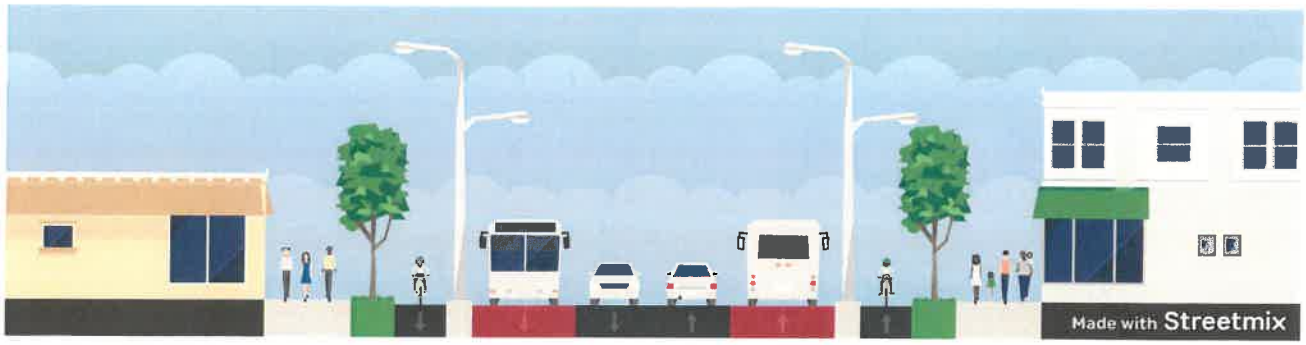
Thoroughfare Cross Section Options

100-foot ROW: Two-way segment with parking lane on both sides and separated two-way mobility lanes



100-foot ROW: Two-way segment with transit-only lane on both sides

Thoroughfare Cross Section Options



100-foot ROW: Two-way segment with transit-only lane on both sides and separated mobility lane on both sides

100-foot ROW: Two-way segment with wide median with transit-only lane on both sides

Connector

Connectors are streets focused on access to individual lots and neighborhood streets. They serve destination trips and generally align with the definition of collectors.

Connector Example Streets

- 22nd Street
- 59th Street
- 85th Street
- Holmes Road
- Rockhill Road
- Main Street south of the Plaza
- NW Waukomis Drive

Connector Key Characteristics

	Typical	Rural Context
Target Speed	25 mph	35 mph
Design Vehicle	SU-30	Same
Control Vehicle	Standard Pump Fire Truck	Same
Right-of-Way Width	90'–100'	54'–90'
Lane Width	10' minimum; 11' when bus is present in that lane	10' minimum. 11' when trucks are present
Pedestrian Facilities	Pedestrian zone - 10' preferred, 6' minimum Amenity zone - 5-8'	Paved Shoulder
Curbside Uses	Landscaping, wayfinding, and transit stops	N/A
Micromobility Facilities	Traditional personal mobility lanes allowed under 20 mph / buffered lanes < 6,000 vpd / separated lanes ≥ 6,000 vpd	Paved Shoulder
Transit Facilities	Transit service is possible on Connector streets. Refer to "Accommodation for Transit Vehicles" under Design Guidance.	N/A
# of Travel Lanes	2 for streets < 20,000 vpd, otherwise 4	Same
Parking	No on-street parking	Same
Green Stormwater Infrastructure	Native plantings in buffer areas or medians and street trees placed behind the sidewalk	Ditch
Street Activation	Medium	Very Low
Place Type	Mixed Use Neighborhood, Mixed Use Residential, Residential High, Residential Medium, Residential Low, Conservation District (NC, N3, N2, N1)	Residential Agricultural
Access Control	Driveways should be managed for appropriate intersection distance and sight lines.	Same

CONNECTOR

This conceptual roadway diagram illustrates a range of possible segments for the given street typology and is not intended to represent a continuous roadway condition.

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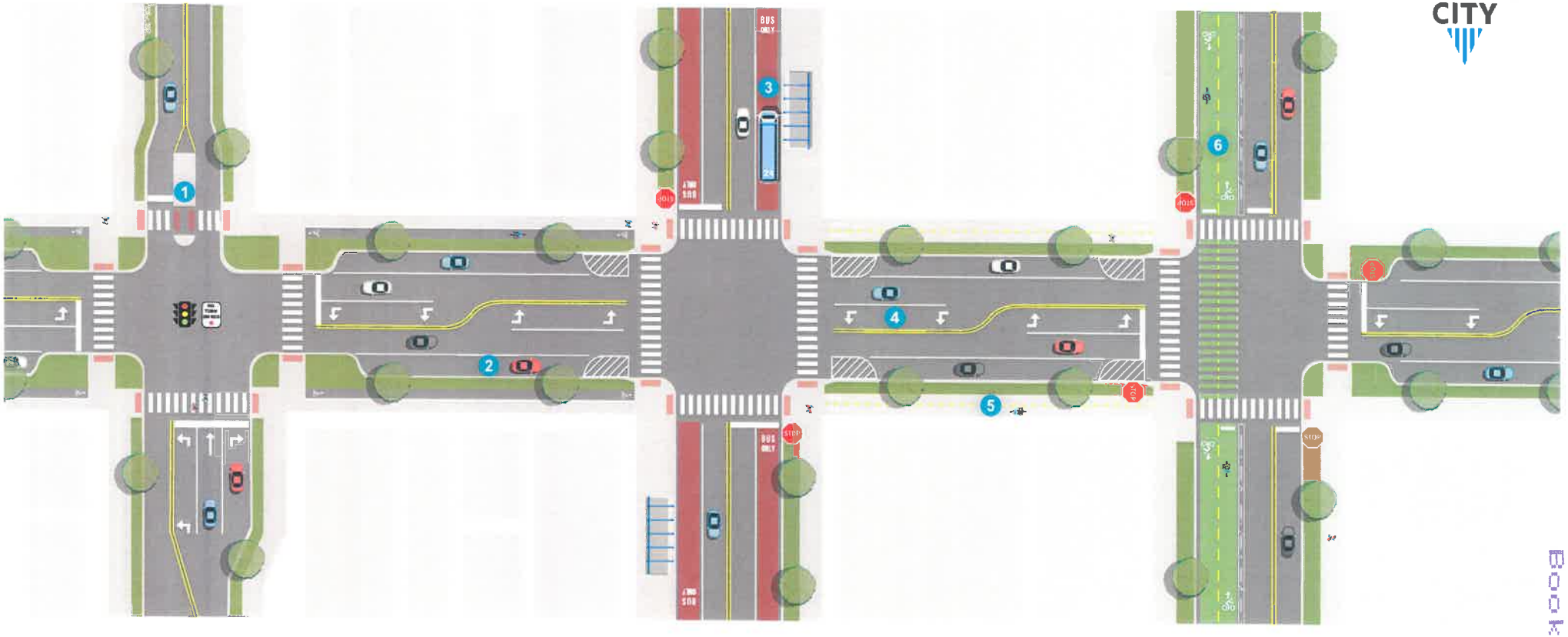


1 PEDESTRIAN REFUGE ISLAND
A median with a refuge area that provides pedestrians a protected area to cross a multilane road in two stages, if necessary.

2 ON-STREET PARKING
Lane adjacent to traffic for parking that provides convenience access to nearby destinations, helps slow traffic, and serves as a buffer between motor vehicles and sidewalk users.

3 TRANSIT
Dedicated transit lanes that improve throughput of buses and reduce vehicle weaving on corridors. These lanes may sometimes be shared by bicyclists and/or right turn vehicles. Bus shelters are appropriate along transit lanes.

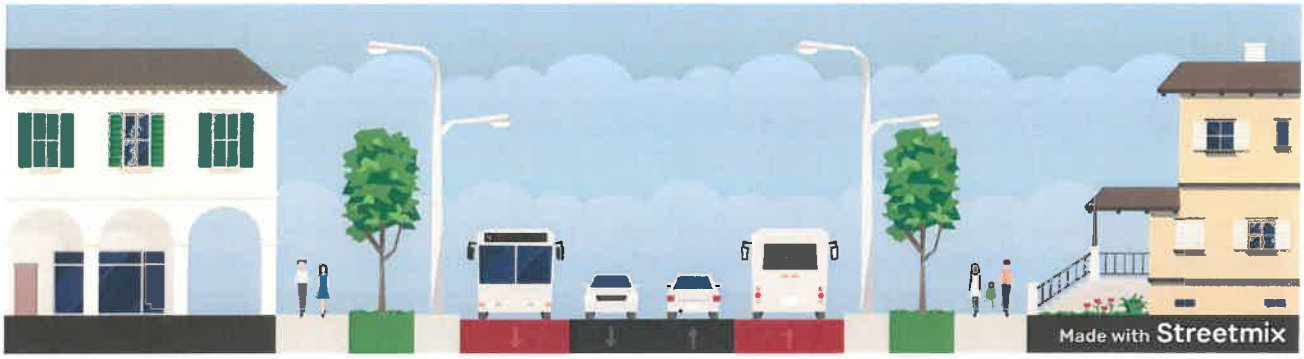
4 LEFT-TURN LANE
Dedicated lane on an intersection approach that separates left-turning vehicles from through traffic, which reduces left-turn crashes.

5 SHARED USE PATH
A wide path designed for pedestrians, cyclists, and other non-motorized travelers that promotes safe active transportation away from traffic.

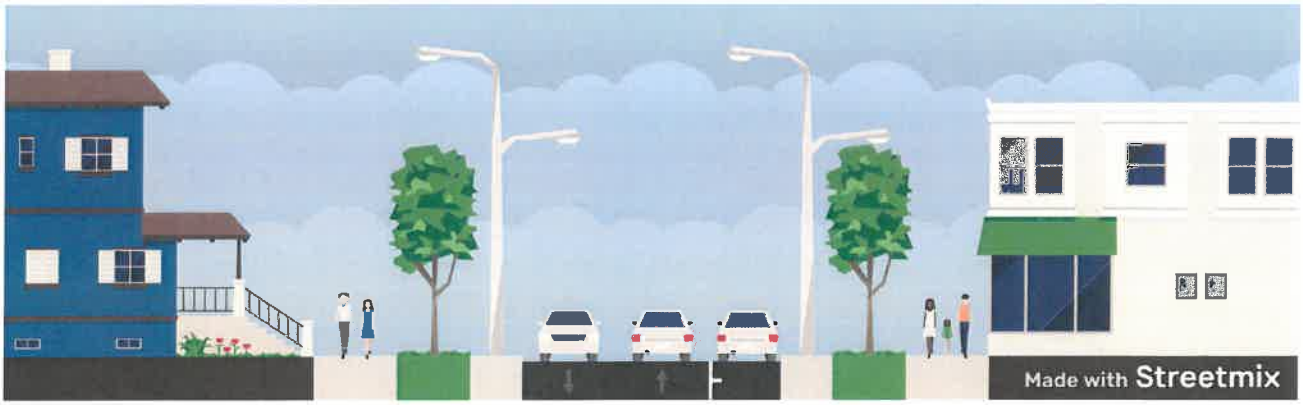
6 TWO-WAY CYCLE TRACK
Separated bike lanes that allow bicycle movements in both directions on one side of the street.

Connector Cross Section Options

60-foot ROW: Two-way segment with separated mobility lane on both sides



80-foot ROW: Two-way segment with dedicated transit-only lane on both sides



60-foot ROW: Two-way segment with parking lane on one side

Neighborhood

Neighborhood streets are typically residential or local streets. They are lined with single family homes, low-density multifamily homes and corner stores. They have low traffic volumes and speeds, direct interaction with the roadway by users of all ages, and integrated mobility uses.

Neighborhood Example Streets

- Almost all Terrace streets
- Charlotte Street
- Woodbridge Lane
- NW Oakcrest Drive
- N Strathberry Avenue

Neighborhood Key Characteristics

	Typical	Rural Context
Target Speed	20 mph	25 mph
Design Vehicle	DL-23	Same
Control Vehicle	Standard Pump Fire Truck	Same
Right-of-Way Width	46'–54'	40'–60'
Pavement Width	28' minimum when parking is permitted; 22' minimum if no parking is permitted	Same
Pedestrian Facilities	5' minimum sidewalk on both sides of the street, or 8' minimum shared use path on one side of the street. If no sidewalks on a street are installed at the time of development, pedestrian facilities will not be provided by the City for a minimum of 50 years. The amenity zone should be 4-8.'	None
Curbside Uses	Landscaping	N/A
Micromobility Facilities	Personal mobility lanes on high usage mobility routes, sharrows, or none	None
Transit Facilities	Transit service is not likely on Neighborhood streets.	N/A
# of Travel Lanes	Travel lanes are typically not designated. Designers should limit travelway width where possible, especially if on-street parking is not provided.	Same
Parking	On-street parking where street width allows	Same
Green Stormwater Infrastructure	Landscaping and street trees	Ditch
Street Activation	High	Low

Some Neighborhood streets are "unimproved"—these are typically former rural roads which have been annexed into the City but still lack sidewalk or curb and gutter. These streets generally pose a very low safety risk. Unless they are fully reconstructed, it is not necessary that they be improved to the specifications of this typology.

NEIGHBORHOOD

This conceptual roadway diagram illustrates a range of possible segments for the given street typology and is not intended to represent a continuous roadway condition.

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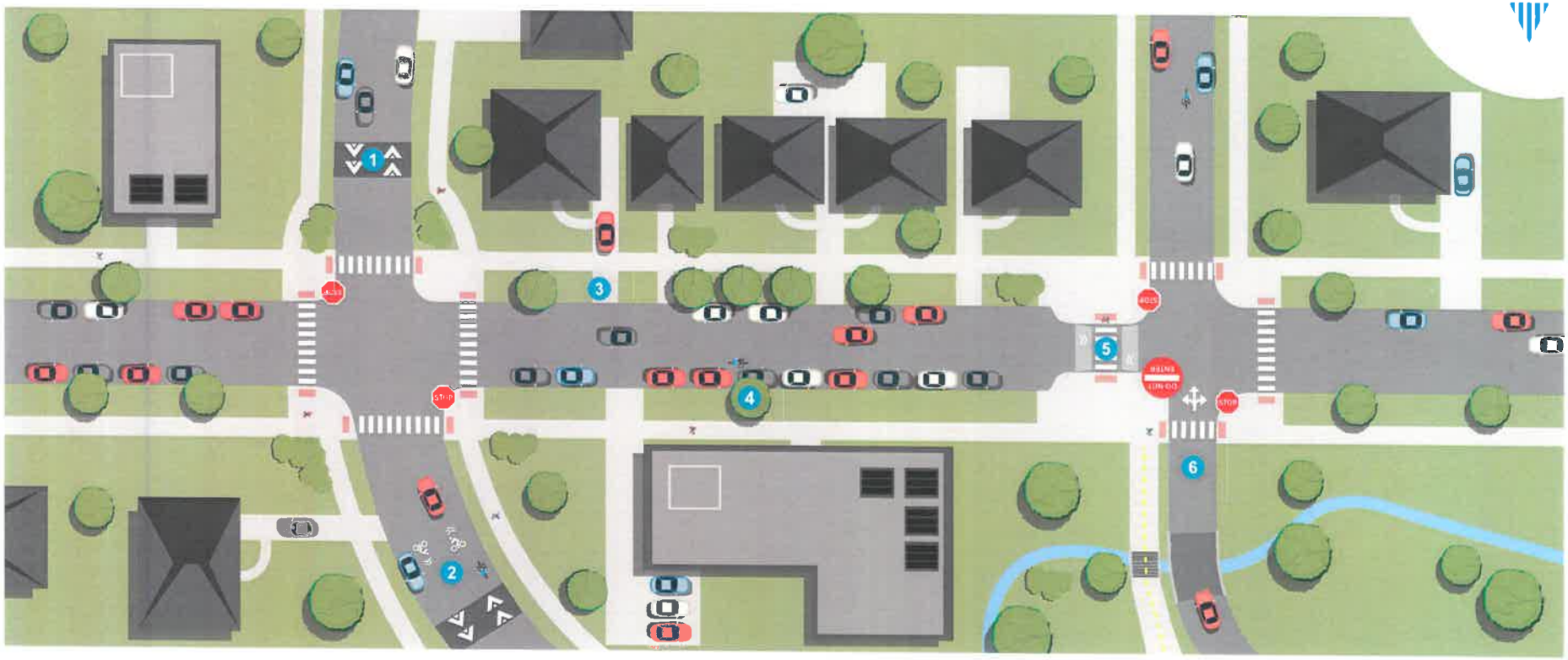


1 SPEED HUMPS
Vertical deflection devices that slow vehicles improving safety for pedestrians and cyclists.

2 SHARROWS
Pavement markings on the roadway that indicate a shared lane for bicycles and vehicles helping position cyclists safely within the lane and alerting drivers to their presence. This design element is only appropriate on streets that are low level of stress like neighborhood streets.

3 ON-STREET PARKING
Parking spaces adjacent to travel lanes that provide a buffer between pedestrians and moving traffic andhelp to slow vehicles by visually narrowing the roadway.

4 STREET TREES AND LANDSCAPING
Trees, shrubs and other landscaping elements adjacent to the roadway that enhance safety and walkability by calming traffic, providing shade and improving neighborhood character.

5 RAISED CROSSWALK
Cross walks that are elevated (similar to a speed hump or table) that limit turning speeds of vehicles and increase the visibility of crossing pedestrians.

6 NARROW STREETS
Streets with reduced width available for motor vehicle travel designed to slow vehicle speeds, enhancing safety for all users and creating a more livable, community-friendly environment.

7 TRAFFIC CIRCLE (NOT PICTURED)
Circular intersections that slow vehicle speeds and reduce conflict points, improving safety and maintaining traffic flow at low-volume intersections.

Neighborhood Cross Section Options

50-foot ROW: Two-way segment with shared lanes

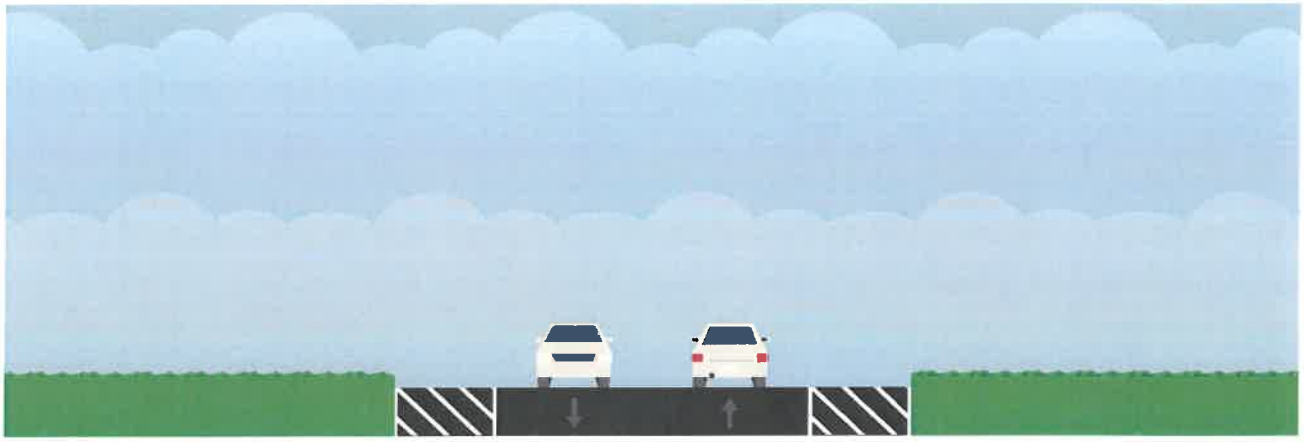
50-foot ROW: Two-way segment with shared lanes and parking permitted on both sides

Neighborhood Cross Section Options

50-foot ROW: Two-way segment with transit facilities on both sides

50-foot ROW: Two-way segment with parking permitted on both sides

Rural Neighborhood Cross Section Options



50-foot ROW: Two-way segment with paved shoulders on both sides

50-foot ROW: Two-way segment with paved shoulders on both sides

Industrial / Business Park

Industrial / Business Park streets are in areas zoned as such with heavy traffic generators. These streets serve a high volume of heavy trucks and frequent turning maneuvers.

Industrial / Business Park Example Streets

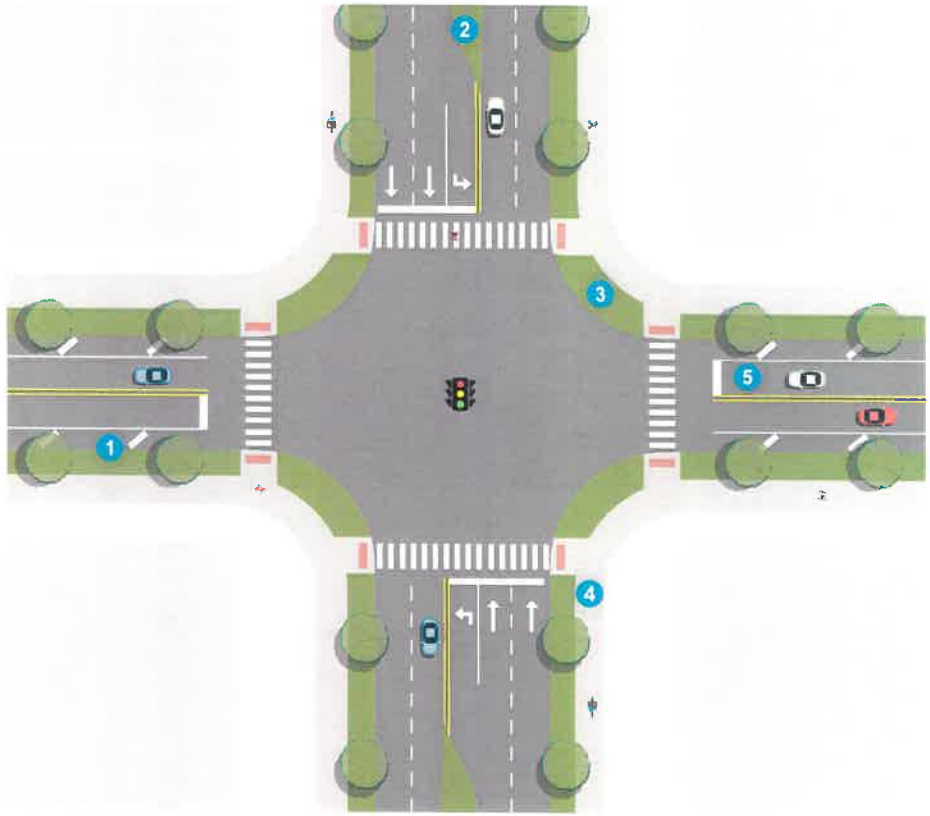
- Barry Road
- Front Street
- Manchester Trafficway
- Chouteau Trafficway
- N Kimball Drive
- N Topping Avenue
- Guinotte Avenue

Industrial / Business Park Key Characteristics

	Typical	Rural Context
Target Speed	25 mph	25–35 mph, depending on access density
Design Vehicle	WB-40	Same
Control Vehicle	Aerial Fire Truck MM100 / WB-62	Same
Right-of-Way Width	80'–100'	70'–90'
Lane Width	11'–12'	Same
Pedestrian Facilities	5'–10' sidewalk, 5'–8' buffer	Shared use path
Micromobility Facilities	Buffered or separated mobility lanes. Designers should provide the maximum possible buffer for personal mobility devices, such as bicycles.	Shared use path
Transit Facilities	Transit service is possible on Industrial / Business Park streets. Refer to "Accommodation for Transit Vehicles" under Design Guidance.	N/A
# of Travel Lanes	2 for streets < 20,000 vpd, otherwise 4	Same
Parking	No on-street parking	Same
Green Stormwater Infrastructure	Landscaping and ditch	Ditch
Curbside Uses	Landscaping	N/A
Street Activation	Low	Low
Place Type	Heavy Industrial, Light Industrial (ML, IF)	Same
Access Control	Driveways should be managed for appropriate intersection distance and sight lines. Access for major generators should be evaluated for appropriate traffic control treatments.	Same

INDUSTRIAL

This conceptual roadway diagram illustrates a range of possible segments for the given street typology and is not intended to represent a continuous roadway condition.



1 WIDE BUFFER AREA
The shoulder and green space provide a wide buffer between heavy vehicles and pedestrians and cyclists.

2 DIVIDED ROADWAY
Separating directions of travel with a median reduces the likelihood of head-on conflicts between larger, heavier vehicles.

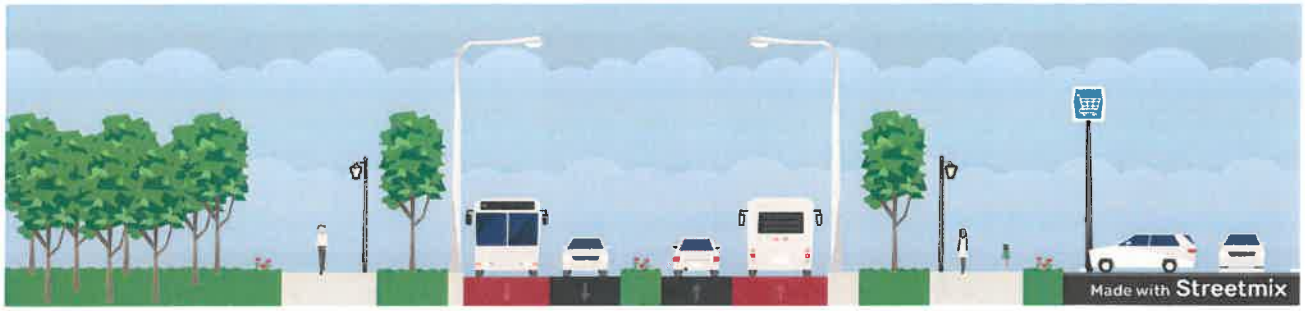
3 WIDER CORNER RADII
Industrial routes use wider corner radii to accommodate the turning movements of large trucks.

4 SHARED USE PATH
A 10-ft paved travel way on both sides of the street provides a shared space for all non-motorized traffic.

5 RECESSED STOP BARS
Stop bars are moved back from the intersection slightly to provide more comfort to crossing pedestrians and to allow a wider left-turn movement.

Industrial / Business Park Cross Section Options

120-foot ROW: Two-way segment with median



100-foot ROW: Two-way segment with median and transit-only lane on both sides

100-foot ROW: Two-way undivided segment

Boulevards and Parkways

Kansas City's historic Boulevard and Parkway system was designed to preserve green space, connect City parks, and enhance urban life. These roads are managed by the Kansas City Parks and Recreation Department, who has published standards for their design with a focus on balancing the preservation of their historic significance with the vibrance of new development.

Generally speaking, boulevards are wide, formally landscaped streets that follow the gridiron street system, accommodate multiple points of ingress/egress and have intersections at all cross streets. Historically boulevards occurred within a hundred foot right-of-way with forty foot streets and thirty foot margins (tree lawn) for wide grass verges, sidewalks and triple rows of trees equally spaced. The original description of the margin was seventeen feet of turf with a double row of trees, an eight foot sidewalk, and then five feet of turf with a single row of trees to the property line. The double row of trees between the curb and the sidewalk allowed for the street to be widened, without removing all the trees, only the row closest to the curb. To this day the boulevards are some of the city's most pleasant corridors and resemble this original design while accommodating changing vehicular traffic. When developing new boulevards, the right-of-way shall be one hundred feet in width or more without a center median. The boulevard consists of a forty-four foot roadway, fifteen foot tree lawns and eight foot sidewalks. Symmetrical plantings of one or two rows of trees in the tree lawn shall be evenly spaced on both sides of the sidewalk.

In reference to the standards document adopted by the Parks and Recreation Department: It is by way of honoring the sense of "unity through . . . pervasiveness" that guides, in many respects, the formulation of these Boulevard and Parkway Design Standards. As stewards of the original Kessler Boulevards and Parkways System, it is an obligation of the Board of Parks and Recreation Commissioners and the city as a whole, to preserve the historic integrity of that system to the extent possible. Part of the responsibility rests in the assurance that the system itself will remain distinct and that travel on and proximity to a boulevard or parkway will convey its special status.

These standards can be found at kcparks.org.

This Streets Design Guide recognizes Boulevards and Parkways as separate street typologies but acknowledges that their function overlaps with other typologies presented in this document. In some places, they function as thoroughfares, in others as connectors, and are even found in the downtown core. In the Major Street Plan, there is a layer specifying which roadways are Parkways and Boulevards. These could be classified as arterial roads or collector roads, but are still maintained and owned by the Parks and Recreation Department.

As roadway, utilities, development, and other projects take place on or near Parkways and Boulevards, there may be an opportunity to include safety improvements aligned with Vision Zero principles. Users of this Guide are encouraged to refer to the Safety Principles discussion in Section 2 and the Design Guidance in Section 4 of this document to identify potential safety-focused improvements to the design of these facilities.

Boulevards

Boulevards are wide, formally landscaped streets that follow the gridiron street system, accommodate multiple points of ingress/egress and have intersections at all cross streets. When developing new boulevards, the right-of-way shall be a minimum of 80 feet in width or more, subject to change with Park Board approval. The boulevard consists of 11-foot wide lanes, tree lawns and ten-foot sidewalks. Symmetrical plantings of one or two rows of trees in the tree lawn shall be evenly spaced on both sides of the sidewalk. Boulevards are more desired in commercial or high-density residential areas.

Boulevard Cross Section Options

- 4-lane
- 4-lane with curbed mobility lane
- 2-lane
- 2-lane with parking
- 2-lane with median and curbed mobility lane
- 2-lane with curbed mobility lane

Boulevard Example Streets

- Armour Boulevard (Parking)
- Emanuel Cleaver II Boulevard (curbed mobility lane)
- The Paseo (median)
- Admiral Boulevard (2-lane)
- Red Bridge Road (4-lane with median)
- Englewood Road (2-lane with median and trail)

Boulevards Key Characteristics

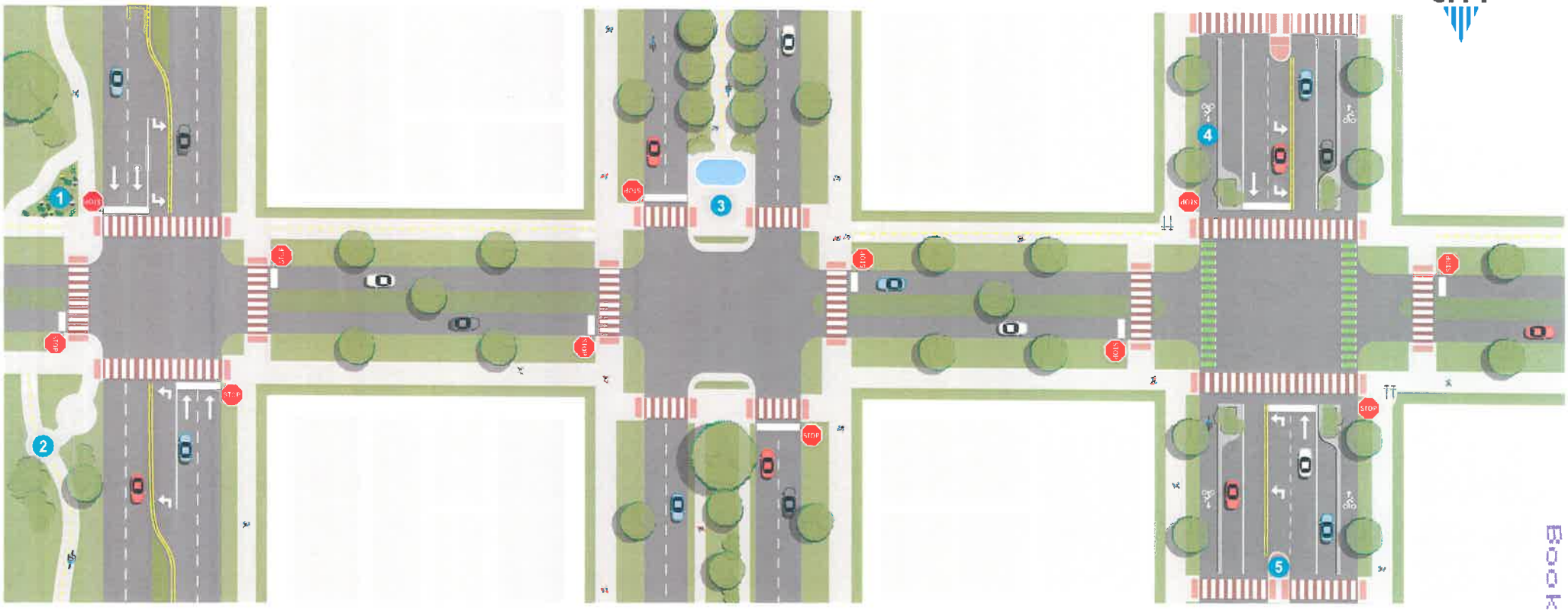
Target Speed	30 mph
Design Vehicle	DL-23
Control Vehicle	Standard Pump Fire Truck
Lane Width	11' minimum
Pedestrian Space	For new construction or reconstruction projects, the sidewalk must be a minimum of 10' on both sides of the street meeting the Boulevard and Parkway Standards for sidewalks located in commercial areas.
Buffer Space	5'–15' of green space between road and sidewalk or path
Micromobility Facilities	Curbed mobility lanes, off-street trail separate from sidewalk. Acceptable materials for separated mobility lanes include poured concrete curbing/median. The preferred mobility facility would be raised to sidewalk level and fully separate from vehicle lanes and sidewalk. If a shared use path is selected, a minimum width of 12' shall be used.
Transit Facilities	Space should be provided for shelters and/or mobility hubs along continuous corridors that are current KCATA routes or may become one in the future. Approval from the Parks and Recreation Board of Commissioners is required for any installation of shelters or mobility hubs. Transit stops should focus on far side stops unless a key generator is located on the near side.
Freight	Design should not accommodate these vehicles as they are prohibited on parkways and boulevards.
Parking	Residential – Allowed on both sides – 8' in width Non-Residential – Per approved plans – 8' in width
# of Travel Lanes	2 or 4
Green Stormwater Infrastructure	Native plantings and street trees as approved by the Parks and Recreation Department Development Review Committee and the Parks and Recreation Board of Commissioners.
Curbside Uses	Transit stops, on-street parking, shared mobility stations, bicycle parking
Street Activation	Medium/High
Place Type	All

***see Parkway and Boulevard Standards for more detail at kcparks.org**

BOULEVARDS

This conceptual roadway diagram illustrates a range of possible segments for the given street typology and is not intended to represent a continuous roadway condition.

KANSAS CITY



1 RAIN GARDEN
A landscaped area that collects and filters stormwater runoff helping reduce flooding and improve water quality.

2 SHARED USE PATH
A wide path designed for pedestrians, cyclists, and other non-motorized travelers that promotes safe, active transportation away from traffic.

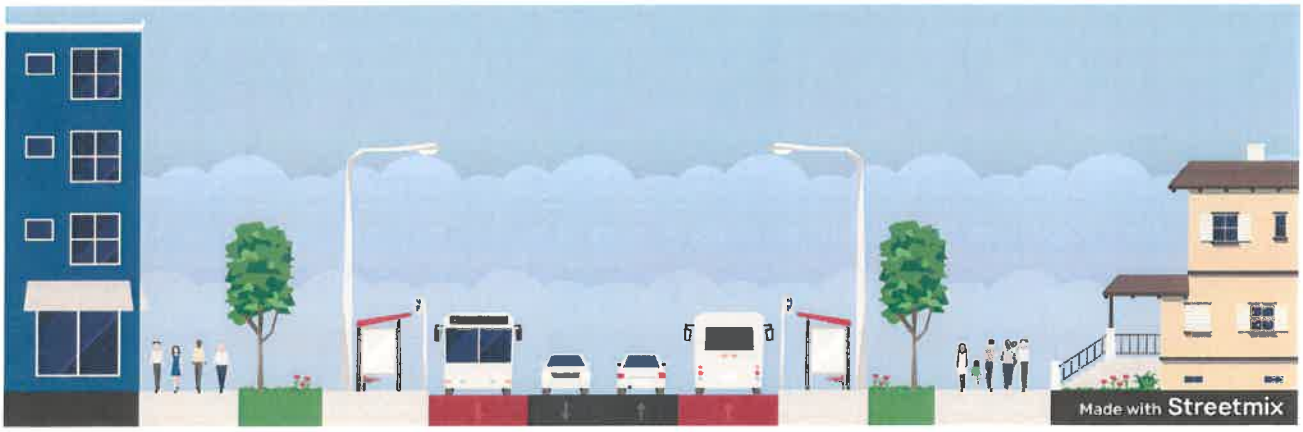
3 ACTIVATED MEDIANS
Enhanced median spaces with landscaping or amenities that calm traffic and create more engaging pedestrian-friendly streets.

4 SEPARATED BICYCLE FACILITIES
Bike lanes that are physically divided from vehicle traffic, offering a safer and more comfortable experience for cyclists.

5 PEDESTRIAN REFUGE ISLAND
A median with a refuge area that provides pedestrians a protected area to cross a multilane road in two stages if necessary.

Boulevard Cross Section Options

100-foot ROW: Two-way segment with center turn lane and separated mobility lane on both sides



120-foot ROW: Two-way segment with transit-only lane on both sides

Parkways

Parkways are less formal in alignment, following the natural terrain and retaining a pastoral quality even as they wind through developed areas. Parkways generally run north and south with wide medians and side panels. The right-of-way is a minumum of 150 feet, with a large median.

Parkway Cross Section Options

- 4-lane
- 2-lane
- 2-lane with personal mobility lane
- 4-lane with personal mobility lane

Parkway Example Streets

- NW Briarcliff Parkway (traffic circle with medians)
- Gillham Road (separated mobility lanes)
- Ward Parkway (activated median)
- Maple Woods Parkway (trail and sidewalks on both sides)

Parkways Key Characteristics

Target Speed	35 mph
Design Vehicle	DL-23
Control Vehicle	Standard Pump Fire Truck
Lane Width	11' minimum
Pedestrian Space	For new construction or reconstruction projects, the sidewalk must be a minimum of 10' on both sides of the street meeting the Boulevard and Parkway Standards for sidewalks located in commercial areas.
Buffer Space	Minimum 10' minimum
Micromobility Facilities	Curbed mobility lanes, off-street trail separate from sidewalk. Mobility (bicycle) amenities to be approved by the Parks Board.
Transit Facilities	Space should be provided for shelters and/or mobility hubs along continuous corridors that are current KCATA routes or may become one in the future. Approval from the Parks and Recreation Board of Commissioners is required for any installation of shelters or mobility hubs. Transit stops should focus on far side stops unless a key generator is located on the near side.
Freight	Design should not accommodate these vehicles as they are prohibited on parkways and boulevards.
Parking	On-street parallel parking may be allowed with approval from the Parks and Recreation Board of Commissioners.
# of Travel Lanes	2-4
Green Stormwater Infrastructure	Native plantings and street trees, as approved by the Parks and Recreation Department Development Review Committee and the Parks and Recreation Board of Commissioners. Trees may be clustered when used within a green stormwater infrastructure practice.
Curbside Uses	Transit stops, shared mobility stations, bicycle parking
Street Activation	Medium/High
Place Type	All

***see Parkway and Boulevard Standards for more detail at kcparks.org**

PARKWAYS

This conceptual roadway diagram illustrates a range of possible segments for the given street typology and is not intended to represent a continuous roadway condition.

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1 HIGH VISIBILITY CROSSWALK
A crosswalk that provides increased visibility to motorists through high-visibility pavement markings, signing and lighting.

2 TWO-WAY CYCLE TRACK
Separated bike lanes that allow bicycle movements in both directions on one side of the street.

3 ROUNDABOUT
Circular intersection that reduces vehicle speeds, improves traffic flow, and lowers the risk of serious right-angle collisions compared to traditional intersections.

4 SHARED USE PATH
A wide path designed for pedestrians, cyclists, and other non-motorized travelers that promotes safe, active transportation away from traffic.

5 PEDESTRIAN REFUGE ISLAND
A median with a refuge area that provides pedestrians a protected area to cross a multilane road in two stages if necessary.

6 SEPARATED MOBILITY LANE
A mobility lane at sidewalk level, separated from the sidewalk and roadway.

Parkway Cross Section Options

150-foot ROW: Two-way segment with wide median and two-way mobility lanes in the median

200-foot ROW: Two-way segment with wide median and park area between travel lanes and sidewalk

Trails

Trails provide systems for non-motorized transportation and recreational opportunities for bicyclists, joggers and walkers. Trails shall be designed to meet the recommendations in the AASHTO Guide to the Development of Bicycle Facilities and the Trails KC Plan.

The trail shall be designed in a way that provides adequate access, is direct and convenient, shall blend with natural environment, and takes in consideration the topography of the land. The location of trails can vary from abandoned railroad corridors, rail-with-trails corridors, waterways, including levees, parks, greenways, stream corridors, stream buffers zones, utility corridors, parkways, street and highway corridors. All development within ¼ mile of a citywide trail alignment either constructed or planned shall be required to provide a connection to citywide trail. There are different trails to recognize:

Neighborhood Connector trails are public, non-motorized shared-use "local trail" that connects neighborhoods to the regional trails.

- Recommended width 8 feet. Any trails proposed that do not meet the standard width must be approved by Parks and Recreation Department Development Review Committee
- Smaller, shorter distance trails with neighborhood connectors, minimum 8 feet wide
- Examples:
  - Copperleaf subdivision (N Flintlock Road & NE 90th Street)

Regional trail is a public, non-motorized shared-use trail facility that serves as a primary or regional trail.

- Recommended minimum width 10 feet minimum with a maximum width of 12 feet
- Provides major connections throughout the city and to neighborhood communities
- Trail is longer trail with significant trail connectors
- Examples:
  - Line Creek Trail
  - Shoal Creek Trail
  - Blue River Trail
  - Trolley Track Trail

Trails adjacent to roadways are covered within the other street typologies. This section refers to trails that are not adjacent to roadways.

Minimum widths here mean that no utility poles, furnishings, equipment are within the trail width. Those items would be within a furnishing zone or buffer zone area.

On Boulevard	Trails not allowed
On Parkway	Encouraged as part of recreation facilities
Width of trail (parkway or regional trail)	10' minimum and 12' maximum
Width of trail (other trails)	8' minimum if space is not allowed for standard width. Required to get approval from Parks and Recreation Department Development Review Committee for other width desired
Width of trail (Gillham Road between Linwood Boulevard and Emanuel Cleaver II Boulevard)	8' wide located within the median (Hyde Park)

Design Guidance

Introduction

This section outlines the guidance to follow when designing City facilities in accordance with the City's Complete Streets Policy (Ordinance 170949, Chapter 64-41), Vision Zero Action Plan (kcmo.gov/visionzero), Standard Drawings, and national industry standards. This guidance is intended to reflect and implement safety for all modes of travel with an emphasis on pedestrian, bicycle, and transit accommodations.

This section informs the planning and design of all future street projects in Kansas City, including street reconstructions and street retrofit projects. The Street Design Guide also informs how the City will approach street projects led by partner agencies such as the Missouri Department of Transportation, the Mid-America Regional Council, local counties, or Kansas City Area Transportation Authority.

When managing a project on an individual street, designers are encouraged to use the interactive Streets Design Guide Map [include hyperlink when available] to find basic information about the street, including its street typology and place in the modal network. They can then use this guidance to supplement design information provided under "Typologies". Design criteria for specific projects will be established with a City project manager or representative. The "Implementation" section explains:

1. How and when to use the Streets Design Guide
2. When to vary from the Streets Design Guide
3. Key resources and partners for street design

Many design features can be implemented as "quick-build" projects (also known as tactical, temporary, or demonstration), which offer:

- Quick, low-cost installation (with a design lifetime of 1–5 years)
- An opportunity for the public to interact with and respond to improvements
- A chance to evaluate improvements before committing to long-term capital projects

The implementation of quick build projects may be initiated by public request, in response to safety issues, in coordination with redevelopment activities, or as part of the public involvement process for complex future street redesigns.

Pedestrian Facilities

Sidewalks and Shared Use Paths

Sidewalk

Sidewalk is defined under Elements of Design. Design of sidewalks is regulated by the ADA with full details in the ADA PROWAG. Recommended sidewalk and buffer widths are specified in Typologies and may be wider than the general guidance provided below. Consideration may be given to not include sidewalks in areas where origins and destinations are not within feasible walking distance. In these cases, City project manager must agree to omit sidewalks. In these cases, it is intended to review the project's Pedestrian Level of Stress based on the City's Sidewalk Prioritization Plan to understand the importance of updates to these features to the area. For exceptions to be made, the City project manager must agree to omit sidewalks.

The minimum width of public sidewalks is stated within each street typology. The minimum width of public sidewalks abutting curb shall be six feet. All public sidewalks shall be a minimum of four inches thick. A sidewalk which is used for mixed traffic shall be six inches thick.

Sidewalks	
Min width utilizing buffer*	5'
Min width for pedestrian refuge	6'
Min width at back of curb	6'
Min running slope	1%
Max running slope (not a ramp)*	5%
Max cross slope	2%
ADA ramp max slope**	8.30%
Min turning space dimensions	4' x 4'

**for new construction, sidewalk should be 10' on both sides of the roadway (see Neighborhood typology for exception)*

***exceptions for sidewalk parallel to a roadway to run at the road grade that exceeds this value where appropriate*

****slope may exceed this value if ramp is >15' long*

Shared Use Path

Shared use path is sidewalk 10 feet or greater in width. It is intended for use by pedestrians and micromobility devices. Paths must be wide enough to accommodate pedestrians and bicyclists traveling at variable speeds in both directions.

Shared Use Paths	
Min width	10'
Max cross slope	2%
Design Speed*	Refer to AASHTO Bike Guide design speeds
Clear zone width	3'
Unpaved shoulder width**	4'

**used if path is not parallel to roadway within street R/W*

***2' can be used for trail/path width ≥12'*

Lighting

To illuminate the front of pedestrians and avoid silhouetting, lighting should be placed 10 feet in advance of intersection and midblock crossings on both approaches rather than directly above the crossing or behind it.

Specialty pedestrian lighting along sidewalks may be appropriate in commercial, urban and urban mixed use areas to enhance pedestrian comfort, security and safety, especially where street lighting and building lights do not adequately illuminate pedestrian areas. Consideration must be given to long-term costs and maintenance of these lights.

Amenities

Any street amenities placed within the pedestrian space shall not impact the clear width of the sidewalk or provide any hazards for pedestrians.

Cafes and Parklets

Sidewalk cafes and parklets should not inhibit ADA compliance—5 feet of clear sidewalk width is required. Cafes should place a retro-reflective strip placed adjacent to traffic and include a 1-foot buffer around the perimeter. They are not appropriate on streets with speeds greater than 30 mph.

Parklets

Parklet	
Min Length for parallel parking	One Space (18'–20')
Min Length for angled parking	Three Spaces (27')
Min buffer between Parklet and adjacent parking	4'
Min. width	6'
Min. buffer between Parklet and traveled way	2'

Sidewalk Cafes

Category	Element	Specification
Location & Siting	Minimum Lane Clearance	12' required unobstructed width of a travel lane next to a street café
	Corner Setback	20' from crosswalks
	Drainage Flow	6" minimum clearance from gutter/inlet flow lines
	Deck Gap	¼" spacing between planks for rainwater runoff
Platform/Deck	Surface Slope	≤ 2% cross slope; flush with adjacent sidewalk for ADA
	Load Capacity	≥ 100 psf live load (per IBC standards)
	Materials	Non-slip decking (wood, composite, steel, etc.)
	Fastening	Mechanically secured, no exposed bolts into pavement
	Access Ramps	Required if platform is > ½" above sidewalk height
Traffic Separation	Edge Protection	Barriers, planters, bollards at both ends of café zone
	Barrier Height	≥ 30" to provide deflection from vehicles
	Bollard Spacing	4' on-center, minimum 36" ADA gap
	Crashworthiness	Use ASTM F3016-rated or equivalent for high-volume roads
Visibility & Delineation	Reflective Strips	3" wide retroreflective tape on all barrier edges
	Signage	New Signage (to be adopted by City Council): "Café Zone Ahead", lane shift warnings
	Lighting	Overhead Café lights or string lights
Pavement Markings	Boundary Lines	White/yellow thermoplastic lines outlining café perimeter
Furniture & Fixtures	Table/Chair Clearance	Minimum 36" for ADA-compliant pathways
	Anchoring	Furniture must be anchored or weighted for wind > 30 mph
	Umbrella/ Awning Height	≥ 7' clearance; must not obstruct driver or pedestrian sightlines
Drainage	Deck Gap	¼"–½" spacing between planks for rainwater runoff
Fire Hydrants & Utility Access	Access	At least 5' clearance on either side of the fire hydrant Maintain 3' clearance on either side of utility boxes, manholes

Roadway Artwork

"Roadway Artwork" is murals or art is painted onto the asphalt or concrete pavement. Artwork outside of the driving lanes and outside of crosswalks is allowed with approval from the Director of Public Works. Artwork within the driving area of the roadway is not permitted.

Intersection murals should not be used as a traffic calming measure, though they may have that result. They are most appropriate along low-volume streets in conjunction with other traffic calming methods with speeds below 20 mph. Murals are typically installed with acrylic traffic paint and should not encroach into crosswalk striping. Street surfaces should be thoroughly swept and power washed before artwork is applied.

Micromobility Facilities

Preferred materials for separated mobility lanes include poured concrete curbing/median. Delineators or other temporary materials are acceptable as an alternative. The City shall approve of any materials used for personal mobility facilities.

Applicability of Personal Mobility Facilities		
Personal Mobility Facility Type	**Vehicle Speed (mph)**	**Volume (vpd)**
Separated mobility lane	Any	Any
Buffered mobility lane	≤ 25	≤ 6,000
Traditional mobility lane	≤ 20	≤ 3,000
Bicycle boulevard	≤ 15	≤ 2,000

Separated Mobility Lanes (Major Separation)

Separated mobility lanes utilize a physical barrier from vehicular traffic.

Protected Mobility Lanes

Buffered Mobility Lanes	
Preferred width	5′
Min width	4′
Min horizontal separation from vehicular traffic	3′
Delineator spacing	8′–20′

*Horizontal separation from vehicular traffic can be reduced in constrained conditions

Figure 3 – Two-way cycle track using quick-build materials

Cycle Tracks

Cycle tracks are two-way protected mobility facilities. These include a vertical separation barrier in the buffer space.

Cycle Track	
Preferred width	12′
Min width	8′
Min buffer from vehicular traffic	3′

Shared Use Paths

Shared use paths move bicycles to sidewalk level and are considered separated mobility lanes. See "Shared Use Path" under "Pedestrian Facilities".

Personal Mobility Lanes (Minor Separation)

Other personal mobility facilities are typically one-directional painted lanes parallel to the roadway.

Buffered Mobility Lanes

Buffered mobility lanes include horizontal buffer without a physical barrier.

Buffered Bike Lanes	
Preferred width	5′
Min width	4′
Min horizontal separation from vehicular traffic	3′

Traditional Mobility Lanes

Traditional mobility lanes are directly adjacent to vehicle traffic.

Conventional Mobility Lanes	
Preferred width	5'
Min width	4'

Bicycle Boulevards

Use of Bicycle Boulevards

Bicycle boulevards combine bicycle and vehicle traffic in shared lanes. Implementing a bicycle boulevard typically involves signage and "sharrow" pavement markings. Bicycle boulevards are only suitable for low-speed, low-volume streets. They should be implemented in combination with traffic calming measures where feasible.

Signage

Designers should refer to the MUTCD for full guidance on personal mobility (bicycle) signage. On bicycle boulevards, Bikes May Use Full Lane (R4-11) signs are preferred to Share the Road (W16-1) signs, which may force cyclists into the gutter pan or dooring zone.

Transit and Freight Traveled Ways

Accommodation for Transit Vehicles

Accommodation for transit stops is dependent on the level of transit service, which is determined by the KCATA. This guidance is intended to aid designers in allocating space. Where possible, designers should seek to co-locate transit stops with shared mobility devices (bike share) and other amenities to create "mobility hubs". Designers should also consider a BU-40 design vehicle on streets with heavy transit traffic.

Designated Transit Lanes

Dedicated transit lanes can improve the reliability of transit service and are appropriate when headways are 8 minutes or less (often designated as BRT service). This can include:

- Curbside transit lanes, which prohibit parking but may allow vehicles for right-turn movements at intersections.
- Center transit lanes, which can be combined with left-turn restrictions to remove driveway conflicts. These lanes use center stations and typically require less right-of-way.
- Peak-only transit lanes, which accommodate shorter headways during peak periods. During off-peak times, these lanes can be used for parking or loading.
- Contraflow transit lanes, applicable on one-way streets.

Especially where transit streets intersect, the urban form may be characterized by Transit-Oriented-Development (TOD). Street designers should refer to Kansas City's TOD Policy for more information on these areas.

Bus Stops

Accessible Passenger Loading Zones	
Minimum dimensions	8' x 8'

Streetcar Stops

Any facilities designed on streets that also contain KC Streetcar features shall require coordination with the KC Streetcar.

KC Streetcar	
Min. length of stop platform	27'
Min. width of stop platform for side stops	8'
Min. width of stop platform for one-sided median stops	10'
Min. width of stop platform for dual-sided median stops	12'
Height of platform above rail	14'

Accommodation for Freight Vehicles

Unloading Areas

At off-peak times, travel lanes, bus lanes, or on-street parking can be used as unloading space for freight vehicles. Designers should seek to prevent freight vehicles from parking in personal mobility lanes or at street corners, where they may obstruct visibility.

Corner Aprons

As discussed in Safety Concepts, curb radii should be limited to the practical minimum. In areas with heavy freight traffic, corner aprons can slow passenger vehicles while allowing large vehicles to mount the curb. Alternatively, large trucks can be encouraged to reach their destinations using left-hand turns.

Figure 4 – Corner apron

Recessed Stop Bar

For large vehicle movements that will encroach on an opposing travel lane, the stop bar should be set back from the intersection. If on-street parking is present, it should also be set back. If either approach is uncontrolled, designers should consider implications for sight distance.

Figure 5 – Recessed stop bar

Vehicular Traveled Ways

Please refer to the Street Typologies section for guidance on the following elements of design:

- Design Speed
- Design Vehicle
- Lane Count

Cross Section

Pavement and Curb

Lane widths should generally be 11 feet. Designers should be using the minimum total pavement width. In rural areas, shoulders should be 6–10 feet. Roadways utilizing curbs should follow the curb dimensions set forth in the City's Standard Drawings.

Clear Zone

Clear zone is the unobstructed and traversable roadside area that allows a driver to stop safely or regain control of a vehicle that has left the roadway. For roadway sections with shoulders, the width of the clear zone is determined by several factors that include traffic volumes, speeds, and slopes. Clear zone area begins at the edge of the roadway and includes any shoulders present on the road. Clear roadsides consider both fixed objects and terrain that may cause vehicles to roll over. For roadway sections with curb and gutter, 2.5 feet is recommended behind the face of the curb.

Clear Zone Slopes	Max Slope
Foreslope	3:1*
Backslope	4:1

**4:1 preferrable*

***Slopes can be exceeded where protected or beyond clear zone*

Guardrail and Barrier

Guardrails and barriers are used on the roadside to protect drivers from roadside hazards within the clear zone. It is generally preferred to remove hazards from the clear zone instead of using a guardrail or barrier.

Horizontal Alignment

Pavement Cross Slope

Roadway	Cross Slope
All roadways ≤3 lanes in each direction	2%

Horizontal Curves and Superelevation

Superelevation will be very rare on City streets. Generally, the need to superelevate a roadway is dependent on speed, the radius of the horizontal curve, and the surrounding environment. Designers should consider opportunities to reduce vehicle speeds before opting to superelevate the roadway on a curve. Designers should refer to the following sections of the AASHTO Green Book for curve design:

Urban Context	Resource
Low speed urban areas	AASHTO Green Book Table 3-13: Minimum Radii and Superelevation for Low-Speed Streets in Urban Areas
All other areas	AASHTO Green Book Table 3-10: Minimum Radii for Design Superelevation Rates, Design Speeds, and emax = 4%

Horizontal Sight Distance

As discussed in "Safety Concepts", clear sight lines are critical to street safety. Refer to the following to determine sight distance on horizontal curves:

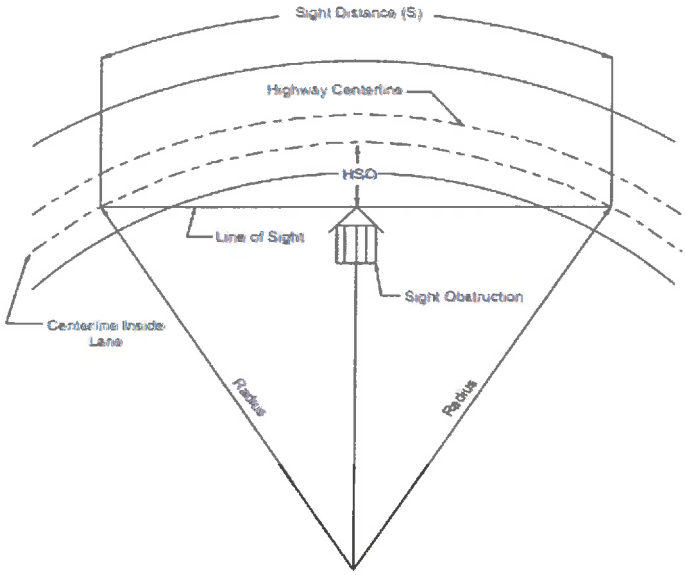


Figure 3-13. Diagram Illustrating Components for Determining Horizontal Sight Distance

U.S. Customary

$$HSO = R\left[1 - \cos\left(\frac{28.65S}{R}\right)\right]$$

where:

HSO = Horizontal sight line offset, ft
S = Sight distance, ft
R = Radius of curve, ft

Figure 6 – Horizontal Sight Distance on a Curve (AASHTO A Policy on the Geometric Design of Highways and Streets)

Vertical Alignment

Crest and Sag Vertical Curves and Stopping Sight Distance

Design Speed	Min Stopping Sight Distance	Crest Vertical Curve K Value	Sag Vertical Curve K Value*
15 mph	80'	3	10
20 mph	115'	7	17
25 mph	155'	12	26
30 mph	200'	19	37
35 mph	250'	29	49

**K values can be lessened to half their reported value under lit conditions*

Source: AASHTO Green Book

Vertical Clearance

Facility under bridge	VC
Interstate or principal arterial routes	16.5'
State routes with volumes ≥ 1700 vpd	16.5'
State routes with volumes < 1700 vpd	15.5'
Other streets*	14.5'
Railroads**	23'
Pedestrian facilities***	8'
KC Streetcar facilities	19'

**use 15.5' over roadway in commercial zones*

***up to 23.5' required for BNSF/UPRR lines*

****7' clearance is allowable if 8' is not feasible*

Source: MoDOT Engineering Policy Guide

Vertical Grades

Typology	Min Grade	Max Grade	Absolute Max Grade
Neighborhood streets		10%	13%
Connector streets	1%*	8%	10%
All other streets		6%	

**Absolute minimum grade in uplands is 0.8% and 0.5% in river bottoms if concrete pavement used and engineer can show drainage is adequately collected*

Source: KCMO 5200

Vehicle Parking

On-street parking can serve as a traffic-calming measure and provide convenient access to land uses. Parking should be set back at least 20 feet longitudinally from intersections and crossings to allow for clear sight lines.

Parallel Parking

Parallel Parking	
Min width of parking spaces	8′
Min length (end space)	20′
Length (regular space)	22′–26′

Angled and Reverse-Angled Parking

Reverse-angled parking is generally preferred to angle parking, especially:

1. On one-way streets
2. If a personal mobility facility separates travel lanes from parking lanes

Reverse-angled parking should be 45°—refer to City Standards. See Municode section 70-525 for designation of streets for angle parking.

Parking Angle (degrees)	Stall Width	Stall Depth	Stall Length	Distance between stall and adjacent traffic lane
45	8.5′	18.7′	18′	3.5′
60	8.5′	19.8′	18′	3.5′

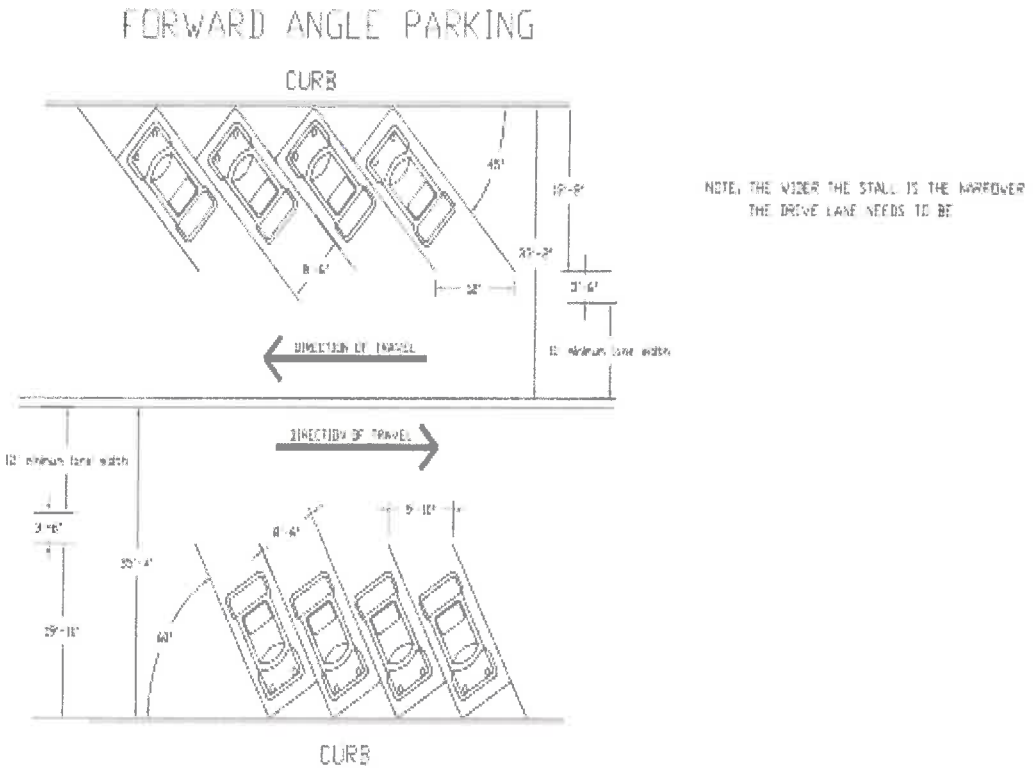


Figure 7 – Example of 45° and 60° Angle Parking Pavement Marking Layout (KCMO Traffic Engineering and Operations Manual)

Parking Meters/Kiosks

Parking meters and parking pay stations that serve accessible parking spaces should comply with ADA PROWAG requirements. A clear space must be located such that, at no more than 40 inches above the center of the clear space, any display or information on parking meters is visible.

ADA On-Street Parking

The appropriate amount of ADA-designated parking is defined in the ADA PROWAG:

Total Number of Metered or Designated Parking Spaces	Minimum Required Number of Accessible Parking Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 and over	4 percent of total

Figure 8 – Required Number of ADA On-Street Parking Spaces (ADA PROWAG)

Traffic Calming

Road Diets

"Road Diets" are a Proven Safety Countermeasure that typically convert four travel lanes into two travel lanes with a two-way left-turn lane. The extra right-of-way can be converted into buffer or space for other modes. Road diets are not recommended for facilities which carry more than 25,000 vehicles per day. Refer to the TEOM for guidance on the evaluation of streets for road diets.

Speed Cushions, Bumps & Humps

Speed cushions, bumps, and humps reduce speeds by vertically deflecting vehicles. They should generally be limited to low-speed streets with curb and are not suitable for collectors with a double-yellow centerline. Designers should ensure that drainage functions are not compromised by speed cushions, bumps, or humps.

Speed Cushions, Bumps & Humps	
Height	3"
Preferred deflector spacing	250'–600'
Min. distance from unsignalized intersections	125'
Min. distance from driveways	15'
Max. recommended volume	1,500 vpd
Max. street grade	8%

Curb Extensions

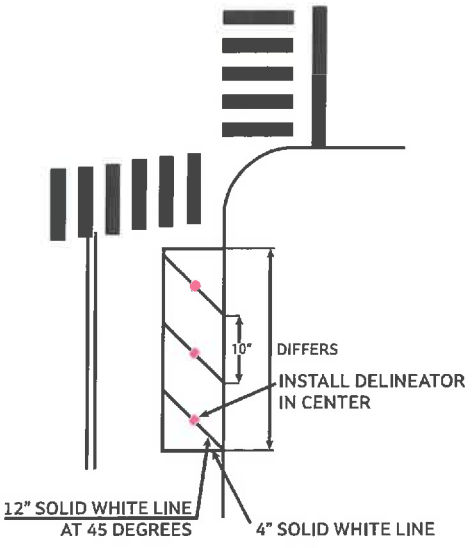
Curb extensions—which can be applied at midblock or as corner bulb-outs at intersections—slow vehicles, shorten crossing distance, and make pedestrians more visible.

Curb Extensions	
Min. separation from travel lane	1.5′
Approach/exit angle to curb extension in areas with snow for plows	45°
Min. length in approach direction	20′
Min. length in exit direction	5′
Max. mountable barrier element spacing	10′
Min. width	2′
Min. space between curbs	20′
Typical width*	8′
Max. curb radius	15′
Min. curb radius	10′

**shall not be greater than 1′ less than the width of adjacent parking stalls*

Intersection daylighting treatments, primarily intended to improve sight distance, are similar to curb extensions. These can be painted (double solid lines) or built in concrete. If delineators are used to prevent parking at intersection corners, they should allow for turning movements with a 30-foot inside radius and 50-foot outside radius.

TYPICAL DETAIL
INTERSECTION DAYLIGHTING



Chicanes

Chicanes reduce vehicle speeds and focus driver attention by disrupting an otherwise straight roadway. They may be achieved with curb extensions, pavement markings and delineators, temporary curbs, or planters. The max return angle for Chicanes should be 45°.

Traffic Circles

Traffic circles or "mini roundabouts" reduce vehicle speeds by forcing all approaches to slow at minor intersections.

Traffic Circle (Permanent)	
Inscribed circle diameter	45'–90'
Central island requirements	Fully Traversable

Traffic Circles can also be accomplished with temporary materials. For these, center islands should be demarcated with a 4-inch retroreflective yellow stripe.

Traffic Circle (Temporary)	
Min. clear distance between curb and center island feature	15'
Center island recommended diameter	10'

Intersections and Crossings

Intersection Configuration

Intersection Sight Distance

Proper intersection sight distance should be provided at unsignalized intersections as defined by AASHTO's A Policy on the Geometric Design of Highways and Streets, Chapter 9.

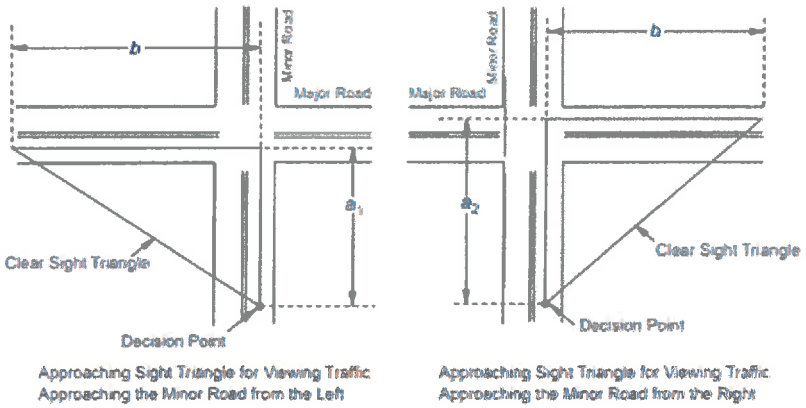


Figure 9-16—Approach Sight Triangles at Intersections

Figure 9 – Intersection Sight Distance (AASHTO A Policy on the Geometric Design of Highways and Streets)

Intersection Angle

Intersection Angle	
Preferred angle	90°
Minimum angle for skewed intersection*	75°

**skewed intersections should be avoided if possible*

Implications for Pedestrians and Cyclists

Vehicle speed at an intersection significantly impacts vulnerable road user safety. As stated in "Geometry" under "Safety Concepts", designers should seek to minimize curb radii to achieve lower turning speeds.

Similarly, the layout of an intersection will impact vulnerable users. While turn lanes have several safety and operational benefits, they also increase crossing distance. To the extent possible, designers should minimize intersection size and complexity. Right-turn "slip lanes" allow high-speed turns and should not be used.

Pedestrian Crossings

Crosswalks

Kansas City uses continental and parallel line style crosswalk markings. All crosswalks must be a minimum of 6 feet wide with the stop bar at least 4 feet from the crossing. Crosswalks should be wider in areas with higher volumes of pedestrian traffic.

Midblock Pedestrian Crossings

Warning signage and marked crosswalks are necessary for any midblock pedestrian crossing. Where possible, solar power should be used for crossing devices.

Applicability of Midblock Crossings			
Device	**Lane Count**	**Vehicle Speed**	**Volume**
Rectangular Rapid Flashing Beacon	≤ 2	≤ 40 mph	≤ 15,000
Pedestrian Hybrid Beacon	≥ 3	Any	≥ 9,000

Curb Ramps

Individual concrete curb ramps should be designed for each direction of pedestrian travel that crosses another street. Ramps that appear to combine 2 directions of pedestrian travel with a diagonal configuration should be avoided if at all possible since those ramps effectively and errantly direct the visually impaired pedestrians into the center of the intersection. Design of sidewalk curb ramps is regulated by the ADA with full details in the ADA PROWAG.

Personal Mobility (Bicycle) Crossings

Personal Mobility Accommodation at Intersections

At intersections, personal mobility paths should remain to the right or left of vehicular lanes. Designers should avoid designs which mix cars and personal mobility devices at intersections or place personal mobility devices between vehicular lanes. Designers should not "drop" personal mobility lanes on the intersection approach. Compared to midblock sections of the travelway, equal or greater separation for personal mobility devices is necessary at intersections. If vehicles must merge with personal mobility space, ensure that cyclists have clear right-of-way.

In general, designers should maximize the visibility of bicycles at intersections. They can accomplish this with:

- Two-stage turning areas
- Bike boxes or forward queuing areas (minimum 10 feet deep)
- Larger "visibility zones": where a driver can see the personal mobility path without obstructions (such as on-street parking)

Pavement Markings

Personal mobility paths should be marked through the intersection.

Cross Street:	Primary Street:					
	Arterial	Collector	Major Driveway	Minor Driveway	Local > 40'	Local ≤ 40'
Arterial	Green	Green	Green	Chevron	Chevron	None
Collector	Green	Chevron	Chevron	None	None	None
Local > 40'	Green	Dashes	None	None	None	None
Local ≤ 40'	Green	Dashes	None	None	None	None

In general, green markings should be used where bicycles mix with a high volume of vehicles. Personal mobility lanes and cycle tracks, along arterials, should include green paint in shared right turn lanes and mixing zones approaching the intersection. Chevrons or sharrows are suitable for these applications on collector streets. Shared use paths should follow the recommendations for pedestrian crossings.

Track Crossings

Streetcar rails can be a hazard for bicycle tires. Personal mobility paths should be positioned to meet the track at a 60–90-degree angle. Warning signage for bicycles in advance of track crossings may also be appropriate.

Traffic Signals

In general, shorter signal cycles benefit pedestrians and cyclists by creating frequent crossing opportunities, especially when pedestrian signals are actuated. Designers should minimize the number of phases and total cycle lengths where possible.

Pedestrian recall and extended walk are encouraged, especially in areas of higher pedestrian activity. Kansas City's Traffic Engineering and Operations Manual has more guidance on these timing elements.

Pedestrian Leading Interval

Leading Pedestrian Interval	
Recommended interval before vehicle green	3–7 s

No Turn on Red (NTOR)

When turning right at red lights, drivers are likely to focus on oncoming traffic instead of hazards where they seek to turn. Prohibiting this behavior improves pedestrian safety in the crosswalk and is especially beneficial in combination with a leading pedestrian interval.

Bicycle Green Phasing

Bicycle Green Phasing	
Yellow change interval	3–6 s
Cycle Lengths	60–90 s
Lead Bike Interval	3 s

Transit Signal Priority

On transit corridors, especially where designated transit lanes are provided, designers should consider signal priority for transit vehicles, which will improve service reliability. This might include detecting approaching transit vehicles or coordinating signal timing for their running speed.

Roundabouts

Refer to the TEOM for guidance on the evaluation of intersections for roundabouts.

Roundabout Sizing

Configuration	Design Vehicle	Inscribed Circle Diameter Range
Single-lane roundabout	B-40	90'–120'
	WB-40	100'–130'
	WB-50	105'–150'
	WB-67	130'–180'
Two-lane roundabout	WB-40	135'–160'
	WB-50	150'–220'
	WB-67	165'–220'
Three-lane roundabout	WB-50	200'–250'
	WB-67	220'–300'

Personal mobility facilities in roundabouts should meet or exceed facilities on the approaches. Personal mobility facilities in roundabouts should have a minimum buffer of 2 feet from vehicles (6 feet preferred).

Access Management

Raised Medians

Medians control vehicle access points and reduce vehicle speeds by introducing friction. Typically, space within the median is planted or filled with stamped concrete or bricks.

Medians	
Minimum width	4'
Width for pedestrian refuge	6'
Width for bicycle crossing	8'
Two-way left-turn lane width	10'

Right-in-Right-Out Control

This guidance is intended only for right-in-right-out driveways and does not encourage "slip lanes" or "right bypass lanes" at intersections. Restricting left turns into and out of driveways can be a common design that helps control the number of potential conflict points at each driveway, thus improving safety. This can be achieved with the geometry of the driveway and adding in a "porkchop" island to restrict left turns or by utilizing a median on the street itself.

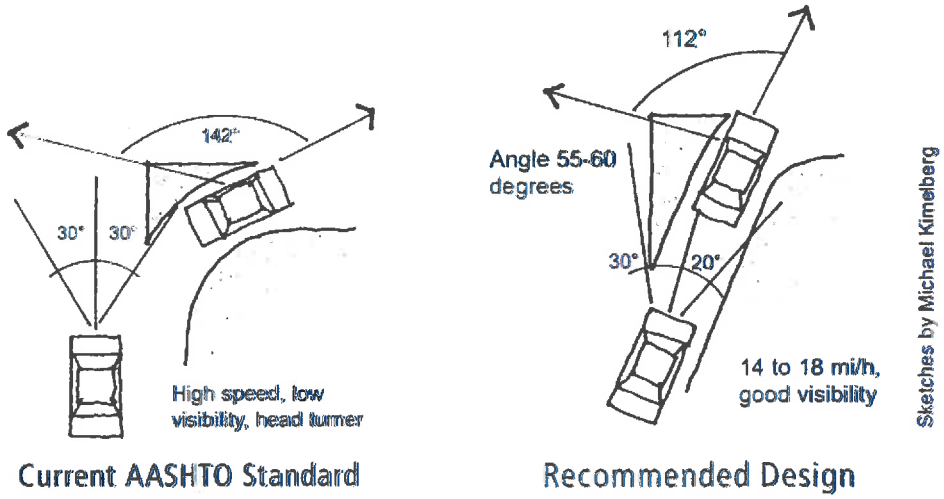


Figure 10 – Principles of Limiting Left Turns at Driveways (FHWA)

Driveway Spacing

Driveway Spacing	
Min neighborhood to neighborhood road CL offset	100′
Min connector to connector road CL offset	200′
Maximum deflection from right angle	20°

Commercial Driveways

	Standard Width		Divided Width **		Median Width (ft)	Driveway Radii ****	
Type of Use	Min	Max	Min	Max		Min	Max
Commercial/ Industrial	24′	30′	14′ *	24′	6′	24′	30′
Trucks	24′	30′ ***	18′ *	30′	6′	24′	30′
Special	18′	30′	24′	30′	2′	18′	30′
Passenger Vehicle	24′	30′	14′ *	24′	6′	24′	30′

**applies to one-way drives only*

***width on each side of median*

****35′ for 3 lanes with approval (1 in and 2 out)*

*****radii should be justified by plotting vehicle travel path*

Driveway grades shall conform to the typical section of the street within the right of way. Any deviations shall be approved by the City with the following limitations:

1. Driveways shall attain a minimum elevation of six inches above the gutter elevation within the right of way with a maximum grade of 8%
2. The maximum algebraic difference in grades within the right of way shall be 8% on crest drives and 12% on sag drives
3. The maximum driveway grade outside right of way shall be 15%

Typology	Min Apron Length	Desirable Grade Change	Max Grade Change Allowed
Industrial	25'–30'	2%–3%	3%–4%
Suburban Commercial Thoroughfare	20'	4%	5%
Downtown Core Urban Mixed-Use Connector	15'	5%	6%

Residential Driveways

Residential Driveway Breakover	Algebraic Difference in grades
Max. sag breakover	12%
Max. crest breakover	8%
Max driveway grade (in R/W)	8%
Max driveway grade (outside R/W)	15%

***requirement: maintain 6" vertical gutter capacity minimum with driveway design*

Cul-De-Sacs

At locations where streets are to be terminated and a vehicular connection between adjacent streets is not required, the termination shall be a cul-de-sac. Such cul-de-sac shall be constructed with a minimum radius of 50 feet to the back of the curb if there are no islands located in the cul-de-sac. Cul-de-sacs should allow the turn of an SU-30 vehicle without reversing.

Fine-grained connectivity will benefit pedestrians and cyclists. Designers should consider if a cul-de-sac is suitable for a bicycle or pedestrian cut-through to an adjacent street.

Implementation

Applying the Streets Design Guide

When to Use the Streets Design Guide

At every stage of project development there are opportunities to improve street safety. The following graphic presents five stages of the project life cycle with corresponding safety-focused outcomes. The "Opportunities" represent areas to achieve this outcome, and the "Inputs" help to prioritize vulnerable road users, create walkable and bikeable corridors, provide transit opportunities, support economic development, and minimize the likelihood and severity of traffic crashes.

	Project Initiation	Concept Development	Design	Construction	Maintenance
Desired Outcome	Shared understanding of purpose and need that prioritizes safety	Selection of preferred alternatives that serves all users	Incorporation of design elements that minimize crash and injury risk	Work Zones that minimize safety risk to workers and road users	Decreased disruption of operations due to infrastructure degradation and obstructions
Opportunities	• Make safety a focus of the project from the outset • Expand definition of user groups	• Half-improvements • Road diets • Using crash prediction methodologies to compare benefits of alternatives	• Inclusion of pedestrian lighting, street furniture, and other amenities • Traffic calming measures	• Accommodation for vulnerable road users during construction • Improved guidance for road users • Traffic calming	• Faster clearance of obstructions, especially for sidewalks and transit stops
Inputs	• Crash history • Current and projected traffic volumes • Land use / zoning • Community engagement	• Project context and street typology • SDG Safe Streets Principles • KC Spirit Playbook • Community engagement	• SDG Design Guidance • Multi-disciplinary plan review • Traffic and speed study findings	• Physical constraints • Schedule constraints • Traffic control and detour plans • Improvement needs for detour routes	• Maintenance policies and schedules • Public reporting of maintenance concerns • Public reporting of safety concerns

The "Typologies" section of this Streets Design Guide represents target conditions. Today, Kansas City Streets match these conditions to varying degrees. The purpose of this guide is to:

1. Recognize opportunities to create safer streets
2. Set the desired characteristics of Kansas City streets
3. Guide designers toward the desired characteristics at every opportunity

The following table shows safety-specific design elements discussed in the SDG and how each project type may consider them. In general, if a project significantly impacts one of these design elements, designers should consider improving it to the target condition (as described in the typology tables), especially if such a change does not require utility relocation or additional right-of-way. Consult the TEOM for more information about traffic calming projects and strategies related to traffic control enhancements.

	Project Type				
Consideration	New Construction	Reconstruction	Resurfacing	Utility Work	Traffic Safety
Obtain ROW	Yes, consult MSP	No, unless alignment is changing	No	No, unless utility ROW will change	No
Change Pavement Width	NA: select pavement width to accommodate required elements	Yes, consider reducing pavement width if possible	No	No, unless utility work requires significant reconstruction	No
Add / Improve Pedestrian Facilities	Yes, 10' sidewalks on both sides with buffer	Yes, match typology guidance	No	No, unless work requires rebuilding sidewalk	No
Add / Improve Mobility Facilities	Yes, match typology guidance	Yes, match typology guidance	Yes, match typology guidance	Yes, through road diets	Yes, through road diets
Traffic Safety Enhancements	Yes	Yes	Yes, use temporary materials	Yes, use temporary materials	Yes
Improve Intersections	NA: design intersections for design vehicle and protect pedestrians and cyclists	Yes, make ADA compliant and consider improved crossings, mobility facilities, and new traffic control	Yes, make ADA compliant and consider improved crossings and mobility facilities with temporary materials	Yes, make ADA compliant and consider improved crossings and mobility facilities with temporary materials	Yes, use temporary materials

New Construction

New streets on greenfield sites present the most flexibility for designers and should be built to match their typology. New construction provides the opportunity for designers to fully address the needs of all user groups, prioritizing safety for vulnerable and disadvantaged road users. With a more inclusive view of potential modes, designers can establish, as a default:

- A low design speed that matches the desired travel speed of the roadway
- Features that reinforce that target speed and warn drivers of potential conflicts
- Safely spaced facilities for pedestrians and cyclists
- Infrastructure for transit services
- Amenities that enhance the street environment

The typical constraint for new construction is project budget. If a design was completed, but not constructed, prior to adoption of this streets design guide, then the City Council members for that district and Public Works Director should be consulted on whether to re-design the road in accordance with this guide or keep the previous design.

Reconstruction

Reconstructed streets are also relatively easy to align with their typology. However, compared to new construction, they are more likely to be constrained by:

1. Available right-of-way
2. The design of adjacent roadway sections

Regardless of right-of-way constraints, designers must prioritize the safety of vulnerable road users. When sufficient space to separate vulnerable road users is not readily available within the right of way, designers should first look to re-allocate vehicle space to create more separation and/or reduce the target speed so that less separation is necessary.

Design consistency along a corridor helps users understand the street environment and its expectations; therefore, designers may choose to modify the target conditions in a given typology to achieve a thoughtful transition from one segment of a corridor to the next. When making such modifications, designers should consider the likelihood adjacent segments will soon be improved—poor design on adjacent segments is not an excuse to rebuild a poorly designed street.

Resurfacing

Resurfacing projects are focused primarily on the pavement surface, but also present the opportunity for safety improvements, often at low cost. For example, by changing the location of pavement markings, designers can:

- Reduce the width of unnecessarily wide lanes
- Add a painted median or buffer zone
- Add personal mobility or turn lanes

Utility Work

When water or other utilities work requires disruption to the pavement or roadside, a Vision Zero review may identify opportunities for enhanced safety. Such improvements require close coordination between City departments and will likely depend on the extent of pavement impacted by the utility work. Every project that impacts street right-of-way should consider possible safety improvements. Even utilities projects with small footprints may provide an opportunity to meet ADA standards, increase access management, provide a midblock crossing, add a speed hump, or enhance signing and striping. Over time, this approach will help bring improved geometric design elements, traffic operations, access, and mode choices to the transportation network throughout the City.

Traffic Safety Projects

The City can implement systemic safety across its transportation network outside of other capital projects through the City's annual allocation for Vision Zero improvements. These projects can bring impactful safety measures to many locations at once, often at a low cost.

This may include traffic calming treatments, such as:

- Speed humps, bumps, and cushions
- Chicanes
- Curb extensions
- Road diets

It may also include systemic safety treatments, such as:

- High-visibility crosswalk markings
- Traffic signal improvements
- Intersection lighting

When to Vary from the Streets Design Guide

Applicability of Design Variances

Design variances or exceptions may be requested to modify street design elements outside Kansas City standards and/or the SDG. This variance process applies to designs developed by the City and designs developed by external partners. The City will formally review requests for variances—both at the conceptual phase and completion of 60% plans—to ensure the design will still meet the goals of the SDG.

Requirements to Request a Design Variance

The following information shall be provided with any requests for a design variance:

1. The location and typology of the street segment
2. The desired variance or exception from the SDG
3. A summary of alternatives considered
4. A justification for the variance or exception which considers:
   a. Safety impacts
   b. Mobility impacts to pedestrians and bicyclists
   c. Mobility impacts to emergency and transit vehicles
   d. Project cost and life cycle maintenance impacts
   e. Environmental impacts
5. Mitigation measures for any negative impacts identified above

Variances go to the Transportation and Development Committee.
See the website for more information: https://www.kcmo.gov/city-hall/departments/public-works/public-works-design-construction-standards/transportation-and-development-committee

Standard Guidance

- A sidewalk width of 10 ft is preferred. Additional space for pedestrians shall be prioritized over additional through lanes and parking lanes.
- An amenity zone, minimum of 4 ft wide, shall be provided between the motor vehicle travel way and sidewalk.
- Parking lanes, where present, should not exceed a width of 8 ft.
- Turning lanes, where present, should not exceed a width of 11 ft.

Exceptions to these requirements:

- If the roadway lanes are 10 ft (or 11 ft on bus routes), then an exception can be made to the 10 ft minimum sidewalk width requirement.
- If in the following street types: Downtown Core, Urban Mixed Use and Connectors, the utility and furnishing zone may encroach up to 4 ft into the sidewalk width to provide a minimum of a 6 ft continuous walking space along the entirety of the street. In this scenario, the widths of the travel and parking lanes shall not exceed the minimums.
- If a 10 ft sidewalk has been provided outside of the amenity zone, then wider than minimum parking lanes and or turning lanes may be considered.
- If there is no opportunity to narrow or remove driving/parking lanes, a pedestrian sidewalk may be constructed at less than 6 ft of continuous clear walking space but not less than 5 ft.

Supplemental Resources for Street Design

Coordination Partners

For designs that involve	Coordinate with
Parkways, Boulevards, or Trails	KCPRD and KC Parks Board
Transit Facilities	KCATA
Green Stormwater Infrastructure	KC Water

Supporting Documents

The following documents were foundational to the Streets Design Guide, and designers are encouraged to refer to them when this guide is unclear. Generally, documents are listed in order of preference for consideration. Documents in bold should take precedence over this guide where conflicts exist.

When designing	Refer to
Any Street	• KCMO Vision Zero Action Plan • KCMO Complete Streets Ordinance (No. 170949) • NACTO Urban Street Design Guide • NCHRP Human Factors Guide • ITE Trip Generation Manual
Pedestrian Facilities	• **ADA PROWAG** • AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities • Kansas City Sidewalk Prioritization Plan • Pedestrian Level of Traffic Stress Assessment (PLTS)
Micromobility Facilities	• NACTO Urban Bikeway Design Guide • AASHTO Guide for the Development of Bicycle Facilities
Transit Facilities	• **KCATA Standards** • NACTO Transit Street Design Guide
Vehicular Traveled Ways	• KCMO Pavement Manual • AASHTO Highway Safety Manual • AASHTO "Green Book" (Policy on Geometric Design of Highways and Streets) • AASHTO Roadside Design Guide
Boulevards and Parkways	• KCMO Boulevard and Parkway Standards
Green Stormwater Infrastructure	• **KCMO Green Stormwater Infrastructure Manual** • NACTO Urban Street Stormwater Guide
Markings, Signing, Lighting, and Devices	• KCMO Traffic Engineering and Operations Manual • APWA 5800