Oregon Department of Transportation

BLUEPRINT FOR URBAN DESIGN

PURPOSE:

- An ODOT Directive that documents urban design practices and guidance for ODOT facilities and projects.
- Provides opportunities for flexibility in ODOT's current design criteria and standards based on the urban context.
- Supports design flexibility and emphasizes multimodal contextual design by integrating performance-based design.
- Encourages project teams to evaluate trade-offs in determining modal priorities, physical and fiscal constraints and meeting the community needs.
- Consistent with federal guidance and publications that emphasize design flexibility and multimodal design.
- Establishes new design concurrence documentation.

RESOURCE FOR:

- Determining the effective outcomes for each facility based on the urban context.
- Identifying ways in which design flexibility can accommodate community needs.

CONNECTION TO OTHER ODOT DOCUMENTS:

- Builds from ODOT existing policies, plans, and manuals plans.
- Serves as interim guidance until the next update to the Highway Design Manual, Analysis Procedure Manual, Traffic Manual, and other guiding documents.

SUPPORTED BY:

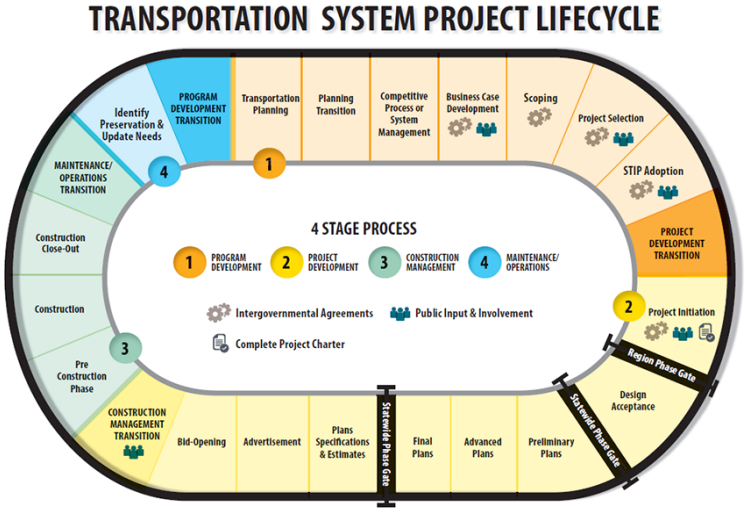
- Planning Section
- Statewide Project Delivery Branch
- Active Transportation Section
- ODOT Executive Staff
- Federal Highway Administration Oregon Division

HOW TO USE THE BLUEPRINT FOR URBAN DESIGN:

CHAPTER 1 – Review document purpose and message from ODOT leadership, and learn background on ODOT program types

- How are urban projects currently developed and delivered at ODOT?
- What are the primary ODOT programs to fund and deliver urban transportation improvements?
- Which policies guide urban project development and delivery?
- Which plans guide urban project development and delivery?
- How is context and roadway classification currently considered?
- How does ODOT use national guidance?

The majority of urban transportation projects follow the four stages of the ODOT Transportation System Lifecycle.



CHAPTER 2 – Identify the appropriate urban context

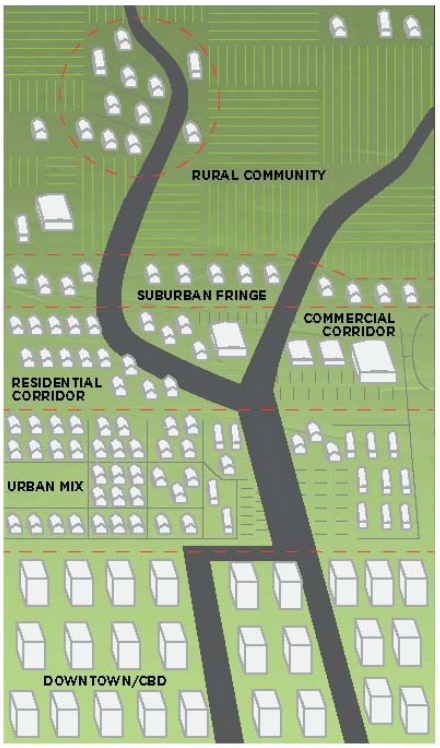
URBAN CONTEXT IS BASED ON:

- Existing and future conditions
- Land uses characteristics
- Development patterns
- Roadway connectivity

Urban context is not limited to places within the current Urban Growth Boundary (UGB).

Includes all ODOT roadways within the urban context except for interstates and limited-access freeways (expressways) with interchanges.

ODOT Urban Land Use Contexts	
Traditional Downtown/ CBD	Areas with the highest development and building heights in an urban area. Typically, a few blocks. Buildings have mixed land uses, are built up to the roadway, and are within a well-connected roadway network.
Urban Mix	Mix of land uses within a well-connected roadway network. May extend long distances. Commercial uses front the street with residential neighborhoods on top or immediately behind land uses.
Commercial Corridor	Mostly commercial and industrial uses with large building footprints and large parking lots set within large blocks and a disconnected or sparse roadway network.
Residential Corridor	Mostly residential uses within a well-connected or somewhat connected roadway network. May extend long distances. Single-family homes may have direct access to the state roadway.
Suburban Fringe	Sparsely developed lands, typically at the edge of an urban growth boundary. May be large lot residential, small-scale farms, or intermittent commercial or industrial uses.
Rural Community	Small concentrations of developed areas immediately surrounded by rural, undeveloped areas.



EXAMPLE OF CROSS SECTION REALMS

The graphic provides an example but does not represent expectations for all roadway cross sections.

CHAPTER 3 INCLUDES:

- Cross section realms and considerations for the design elements within each cross section realm.
- Summary tables of specific guidance for design elements within each urban context.
- Additional guidance for bicycle facility selection, pedestrian crossing spacing, and target speed.
- Graphical cross section options for each urban context.

Additional table notes can be found in the BUD and provide considerations for specific design elements.

Design Element Recommendations for Suburban Fringe

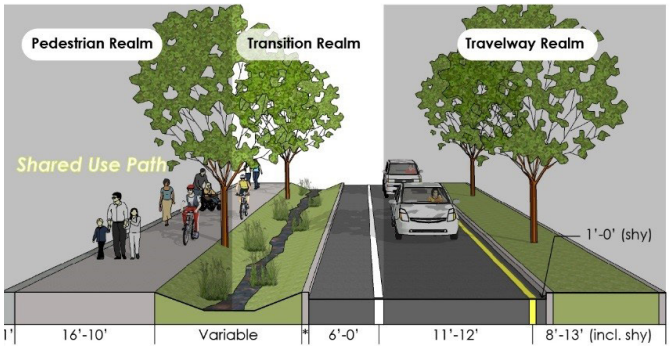
	Design Element	Guidance
Pedestrian Realm	Frontage zone	1'
	Pedestrian zone	8' to 6'
	Buffer zone	5' to 2'
	Curb/Gutter	2' to 0.5'
Transition Realm	Separated Bicycle Lane (Curb Constrained Facility)	8' to 7'
	On-Street Bicycle Lane (not including Buffer)	6'
	Bicycle/Street Buffer (physical separation preferred for On-Street Lane)	5' to 3'
	Right Side Shoulder (if travel lane directly adjacent to curb)	6' to 0'
	On-Street Parking	N/A
Travelway Realm	Travel Lane	11' to 12'
	Right Turn Lane (including Shy Distances)	12' to 13'
	Left Turn Lane	12' to 14'
	Left Side / Right Side Shy Distance	1' to 0'
	Two-Way Left-Turn Lane	12' to 14'
	Raised Median – No Turn Lane (including Shy Distances)	8' to 13'
	Left-Turn Lane with Raised Curb Median/Separator (including 16" separator & Shy Distances)	14' to 16'

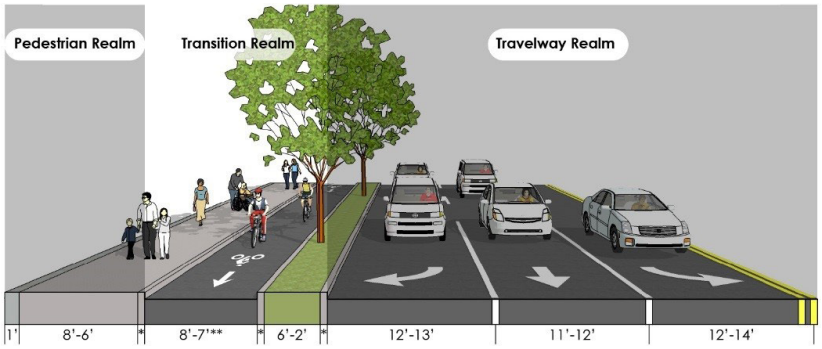
To improve safety and comfort of people walking and riding bicycles, project teams will use the higher end of the dimension as a starting point.

For travel lanes, the intent is to begin with the smaller dimension and increase if needed depending on the context, users and roadway characteristics.

Long-term maintenance activities and freight mobility are considerations in the overall design.

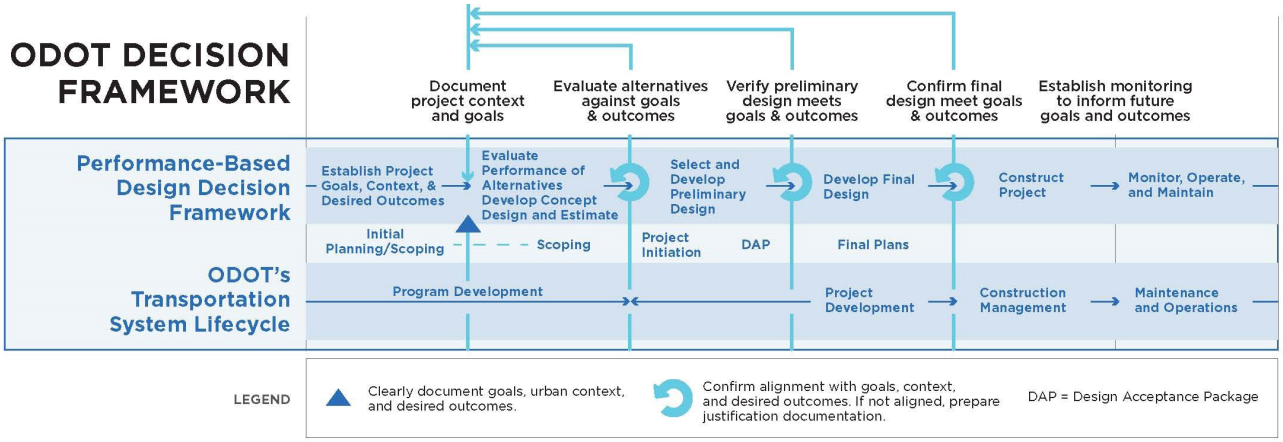
EXAMPLE CROSS SECTION OPTIONS FOR SUBURBAN FRINGE





Bicycle facilities that include vertical elements or curbed sections should coordinate with maintenance during project development to address long-term needs.

CHAPTER 4 – Use ODOT design concurrence to document design decisions based on the multimodal decision-making framework



ESTABLISH A MULTIDISCIPLINARY PROJECT TEAM TO:

- Provide continuity through project completion
- Verify that planning decisions are considered at later evaluation and design stages.
- Creates design concurrence documentation

During Program Development → Project Scoping Team
During Project Development → Project Delivery Team.

A PERFORMANCE-BASED DESIGN APPROACH:

- Establish appropriate desired project outcomes
- Evaluate trade-offs during decision making
- Create an iterative process
- Identify flexibility in the design
- Verify of desired project outcomes at each stage
- Document design decisions throughout each stage of the process.

Performance-based design is an approach that emphasizes the outcomes of design decisions as the primary measure for design effectiveness.
NCHRP Report 785

KEY TAKE-AWAYS

- Supplements and overrides existing ODOT Highway Design Manual (HDM) and other ODOT manuals with any conflicting guidance
- Integrates planning and design for each urban context in addition to existing roadway classification and highway designations
- Highlights opportunities for design flexibility with a range of cross sections in each urban context.
- Incorporates a performance-based design approach to evaluate trade-offs and document design decisions.
- Encourages practitioners to starts at the highest level of protection for vulnerable users
- Outlines the new ODOT design concurrence documentation