

PM&E



**PROJECT MANAGEMENT
& ENGINEERING**

Design Criteria Manual Update Streets & Traffic Control

Stakeholder Advisory Group
Meeting 1

Stakeholder Advisory Group Overview

- Mayor's Office
- Assembly
- Planning & Zoning Commission
- Community Councils
- Anchorage Home Builders Association
- Cook Inlet Housing Association
- Anchorage Downtown Partnership
- Bike Anchorage
- Centers For Safe Alaskans
- American Association of Retired Persons
- Alaska Center for the Blind and Visually Impaired
- Alaska Trucking Association
- ITE Alaska
- Society of Women's Engineers
- Alaska Department of Health
- Alaska Department of Transportation & Public Facilities

Introductions

Name

Organization & Position

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www.menti.com

Enter the code

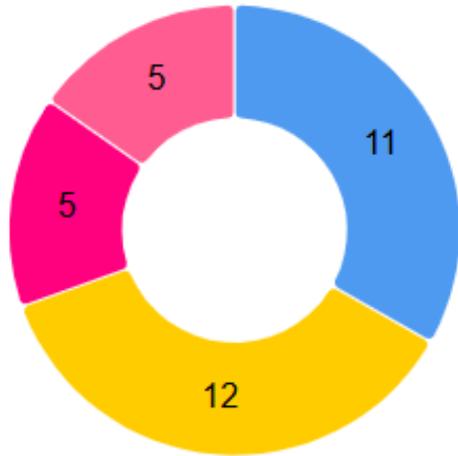
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Or use QR code



How familiar are you with the Design Criteria Manual (DCM)?



- 11 Very familiar; use it daily
- 12 Less familiar; have used it one of more times
- 5 Not familiar; never used it but have used other engineering criteria manuals
- 5 Not familiar; never used it or any engineering criteria manuals
- 0 What's DCM?



menti.com
2852 2863

33 of 33 responded

Menti

SAG #1: DCM Questions

Choose a slide to present



How familiar are you with the Design Criteria Manual (DCM)?



What is your view on these aspect of design standards?

1. Design standards are too restrictive
2. Design standards are too flexible
3. Design standards are too complex
4. Design standards are too simple
5. Design standards are too outdated
6. Design standards are too modern
7. Design standards are too expensive
8. Design standards are too cheap
9. Design standards are too difficult
10. Design standards are too easy

How often do you use the Design Criteria Manual (DCM)?



How often do you use the Design Criteria Manual (DCM)?



How is the right-of-way used by designers?



DCM Update Plan

DCM Chapter	Last Updated	Chapter Update Underway	Status	Estimated Adoption
1 – Streets	2007	Yes	Kickoff	Q3, 2027
2 – Stormwater	2017	No	N/A	TBD
3 – Landscaping	2007	Yes	P&Z	Q1, 2026
4 – Trails	2007	Pending	Pending	TBD
5 – Lighting	2007	No	N/A	TBD
6 – Traffic Control	2007	Yes	Kickoff	Q3, 2027
7 – Public Transportation	2007	Yes	P&Z	Q1, 2026
8 – Plans & Specifications	2007	Yes	P&Z	Q1, 2026

DCM Update Process





Stakeholder Advisory Group Overview



What will the Stakeholder Advisory Group Do?

- Participate in presentations on the Design Criteria Manual
- Attend site visits
- Provide feedback
- Consider goals for updating the DCM
- Participate in a presentation on the DCM draft once developed

Stakeholder Advisory Group Overview

- Presentations

- Introduction to Street Design Criteria and the Design Criteria Manual
- How Streets are Shaped Through Criteria
- The Safe System Approach & Movement and Place Framework
- The Anchorage Context
- DCM Update Goals

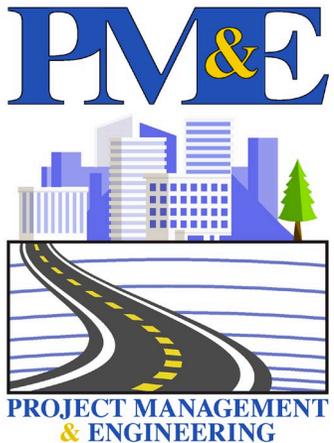
Site Visits

- In-person, virtual visits using Google Street view
- In-person visits to representative streets
- Locations TBD



Introduction to Street Design Criteria & the Design Criteria Manual

Stakeholder Working Group
February 10, 2026



Brandon Telford, P.E.

Engineering Manager

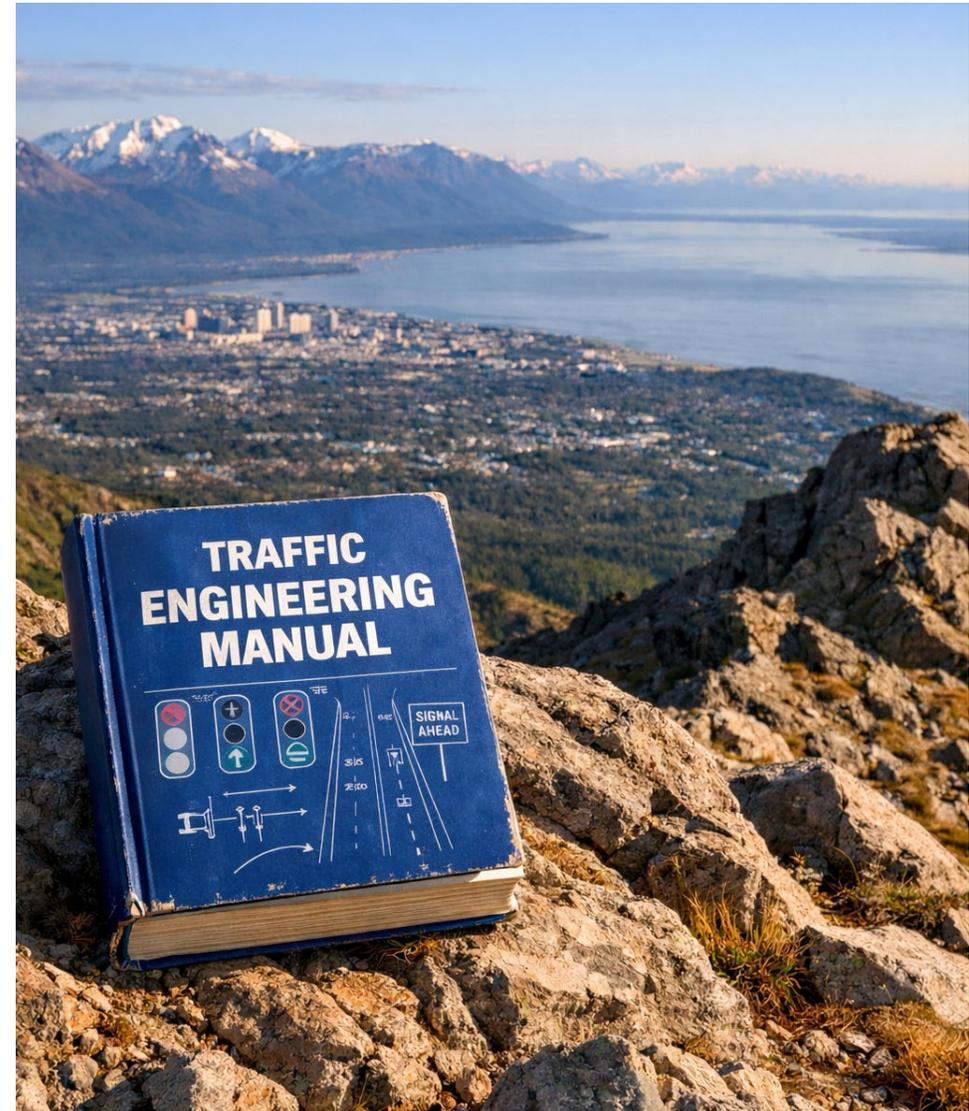
Project Management & Engineering
Department

Chapter 1 – Streets

Chapter 6 – Traffic Control

Introduction to Street Design Criteria & the Design Criteria Manual

- **Introduction to Street Design Criteria**
 - Operations
 - Planning
 - Geometrics & Drainage
 - Materials & Pavement
- **Introduction to the Design Criteria Manual**
 - What is the DCM
 - Where does it apply
 - What is the relationship between the DCM and OSHP
 - Industry standard guidance
 - The DCM through the years
 - What's in the DCM (overview)



Introduction to Street Design Criteria

Operations

- Characteristics, Studies, Traffic Flow, Intersections

Planning

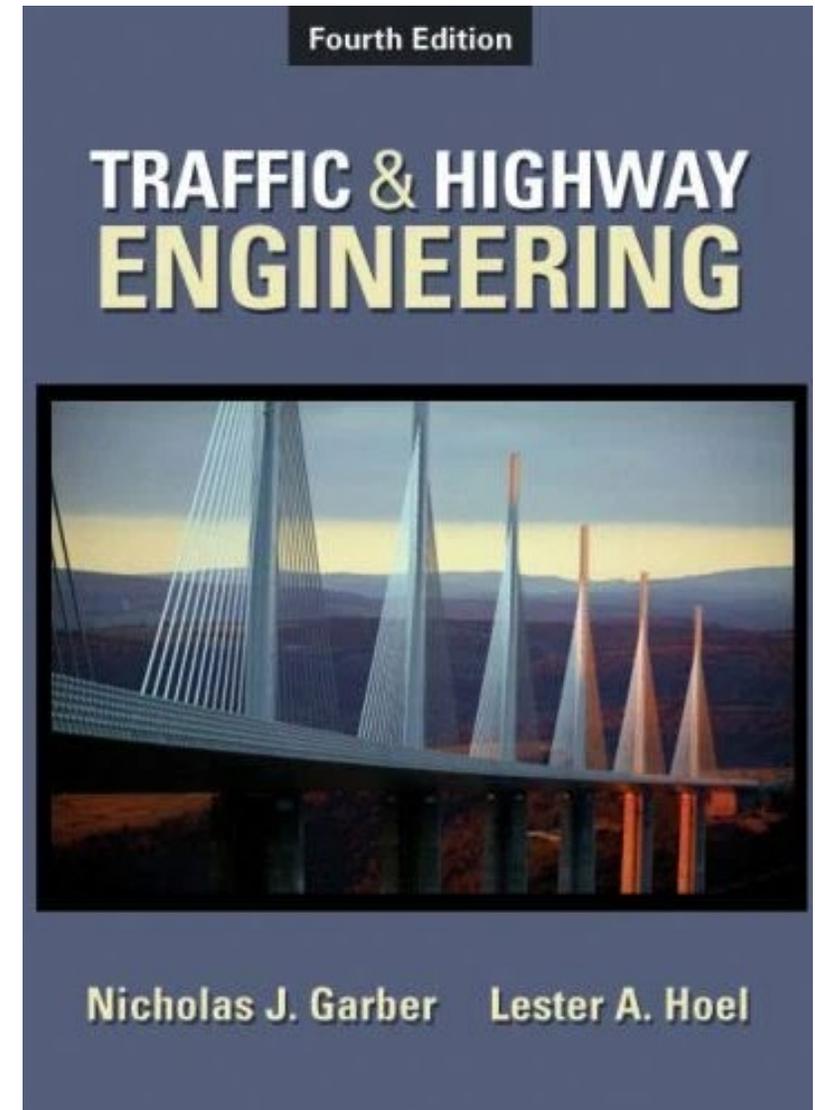
- Forecasting Travel Demand, Evaluating Transportation Alternatives

Geometrics & Drainage

- Sections, Alignments, Profiles, Grade, Drainage, Erosion Control

Materials & Pavement

- Soils, Classified Materials, Asphalt, Concrete



Introduction to Street Design Criteria, Operations

Characteristics, Studies, Safety, Traffic Flow, Intersections

$$SSD = 1.47Vt + \frac{V^2}{30 \left[\left(\frac{a}{32.2} \right) \pm G \right]}$$

SSD = stopping sight distance, ft

V = design speed, mph

t = brake reaction time, 2.5s

a = deceleration, ft/s²

G = grade, rise/run, ft/ft

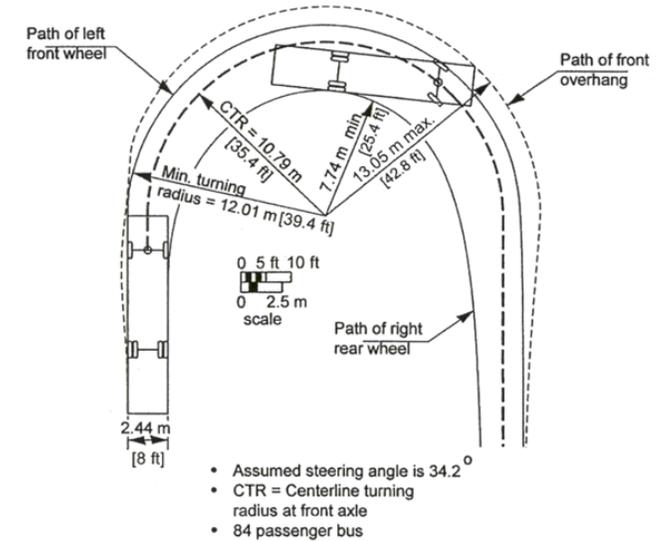
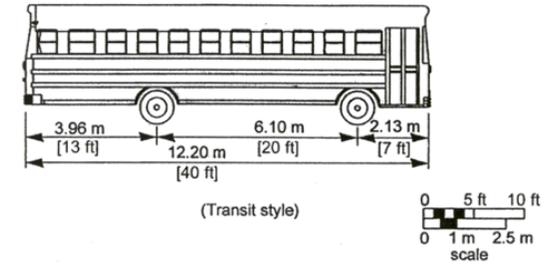
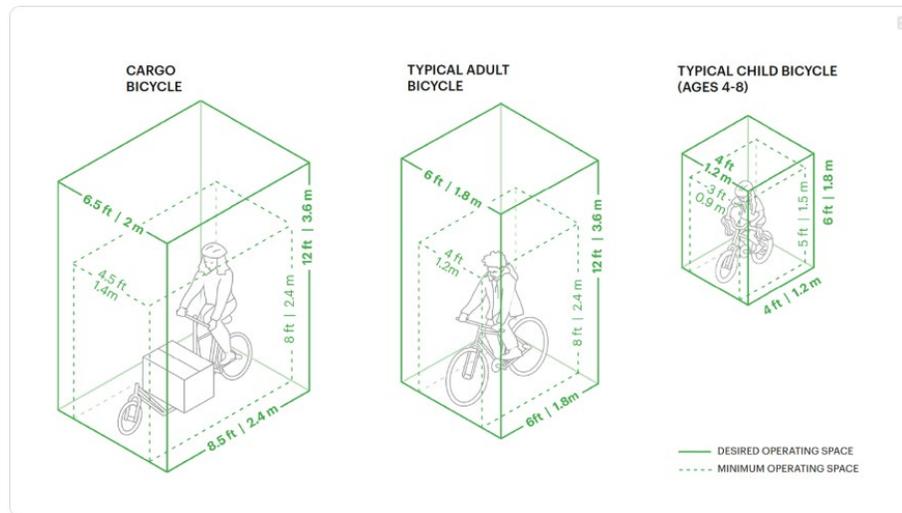
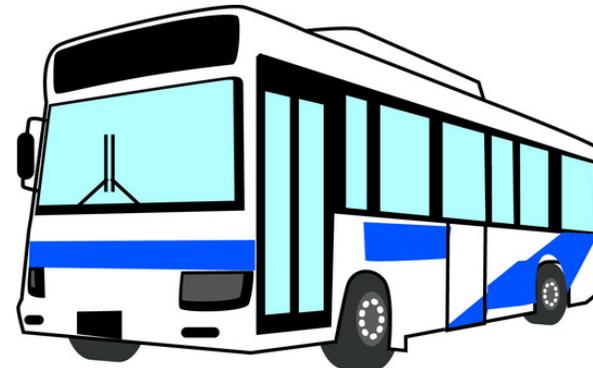


Exhibit 2-9. Minimum Turning Path for Large School Bus (S-BUS-12 [S-BUS-40]) Design Vehicle

Introduction to Street Design Criteria, Operations

Characteristics, Studies, Safety, Traffic Flow, Intersections



Control
Vehicle

Design
Vehicle

Managed Vehicle

Introduction to Street Design Criteria, Operations

Characteristics, **Studies**, Safety, Traffic Flow, Intersections

21.03.190 STREET AND TRAIL REVIEW

A. Purpose

Streets are a significant investment in the municipality's infrastructure and establish long-term land use impacts on nearby properties and the community at large. Streets and trails are not only utilitarian, but also add lasting value to the community and convey the image of the municipality to all users. These important parts of the municipality's fabric benefit by oversight and concurrence in the design decisions by citizen bodies that are represented by the planning and zoning commission and the urban design commission. All transportation projects are required to identify functional and design issues early in the process and include public input at various stages of the project. In addition, projects meeting certain thresholds are required to include the planning and zoning commission and urban design commission in the review and approval process.

B. Street Review

1. Applicability and Overview

All MOA transportation projects are required to follow *A Strategy for Developing Context Sensitive Transportation Projects*. New construction and reconstruction of street and intersection projects involving streets of collector classification or greater in the *Official Streets and Highways Plan* are required to follow a review process by the planning and zoning commission, as indicated below and in table 21.03-4. The stages are:

- a. The concept report or equivalent, distributed to the planning and zoning commission as an information item;
- b. The draft design study report, reviewed by the planning and zoning commission; and
- c. The plans in hand design drawings, reviewed by the urban design commission.

REVIEW	REVIEW BODY	PRIMARY DECISION
Concept Report	Project Management Team	Issue identification, "go, no-go" decision
Draft Design Study Report	Planning and Zoning Commission	Alternatives development, evaluation and screening criteria, alternative decision
Plans in Hand Design Drawings	Urban Design Commission	Approval of plans at 65 percent stage, including landscaping "theme"

Draft Design Study Report Requirements from AMC 21.03.190 B.4.b:

Existing Conditions, including but not limited to traffic volumes

Design standards and criteria, with specific attention to any requests for variances from the criteria

Alternatives identification, evaluation, and recommended alternative

Compliance with Title 21

Long-term impact on existing and project land uses in the vicinity

Short-term and long-term impact of property acquisition for right-of-way

Impacts on utilities and other public infrastructure, including undergrounding of overhead utilities

Street illumination

Maintenance considerations

Environmental Constraints

Pedestrian and other non-motorized access

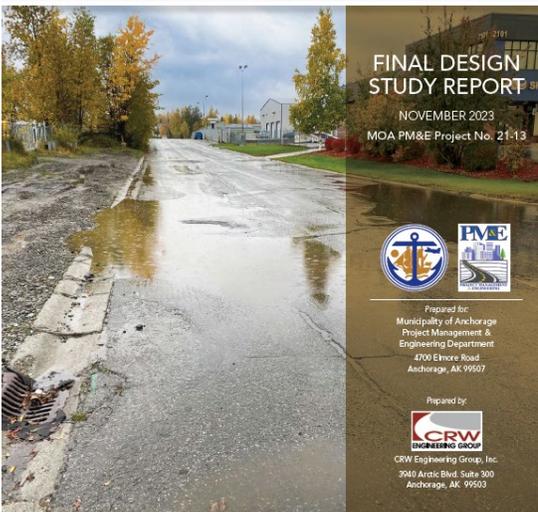
Public involvement summary

Cost Estimate

Introduction to Street Design Criteria, Operations

Characteristics, **Studies**, Safety, Traffic Flow, Intersections

QUINHAGAK STREET Reconstruction



CONCEPT REPORT
FINAL
MARCH 2020
MOA Project #19-08

LOIS DRIVE & WEST 32ND AVENUE PATHWAY
BENSON BOULEVARD TO MINNESOTA DRIVE

Prepared for:
Municipality of Anchorage
Project Management & Engineering Department
632 West 6th Avenue
Anchorage, Alaska 99501

Prepared by:
CRW Engineering Group, LLC
3940 Arctic Boulevard, Suite 300
Anchorage, AK 99503

HUDDLE
Huddle AK
721 West 1st Avenue, Suite 100
Anchorage, AK 99501

A STRATEGY FOR DEVELOPING CONTEXT SENSITIVE TRANSPORTATION PROJECTS



Prepared For
Municipality of Anchorage

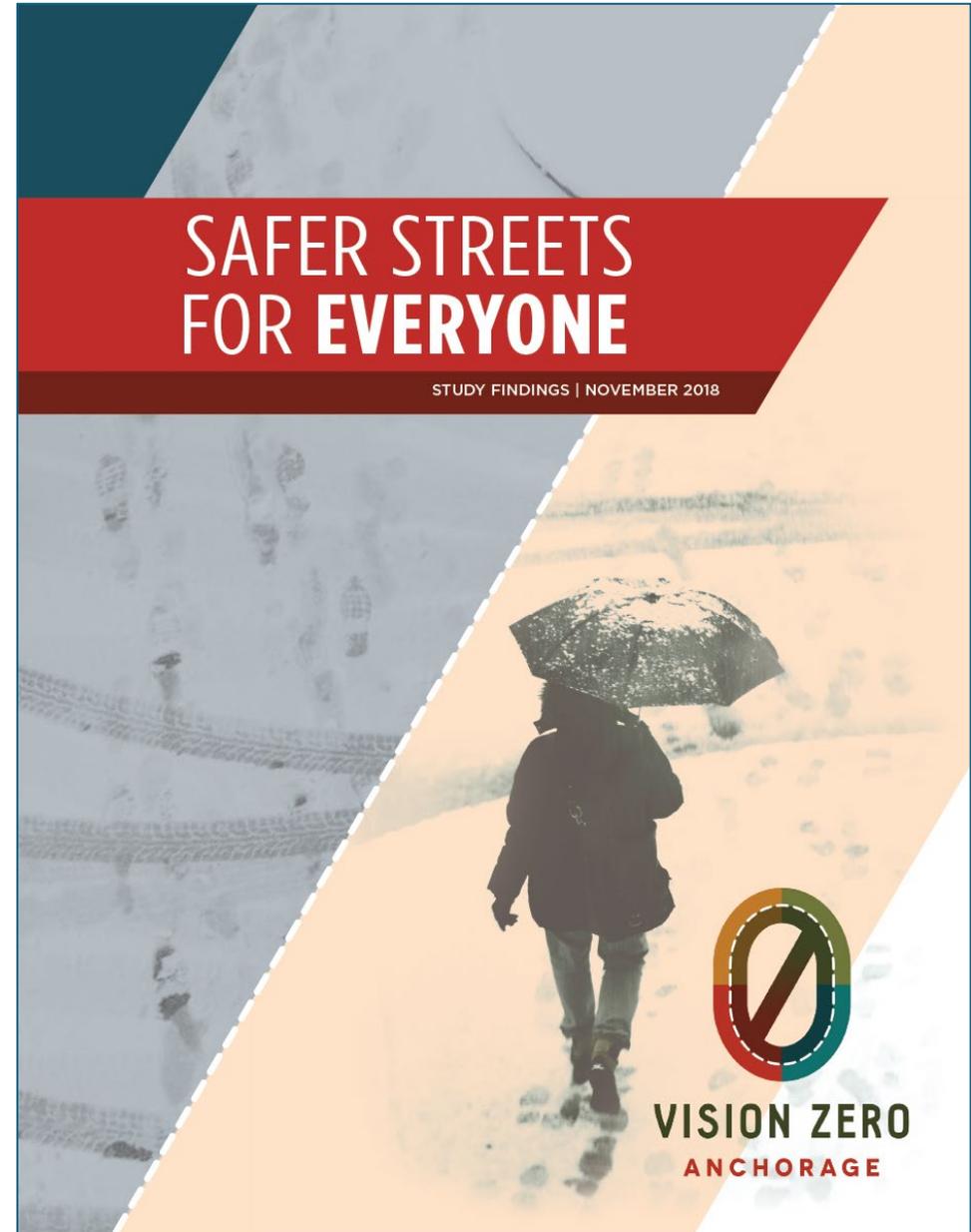


Prepared by
Brooks and Associates

Adopted by
Municipality of Anchorage Assembly on October 14, 2008

Introduction to Street Design Criteria, Operations

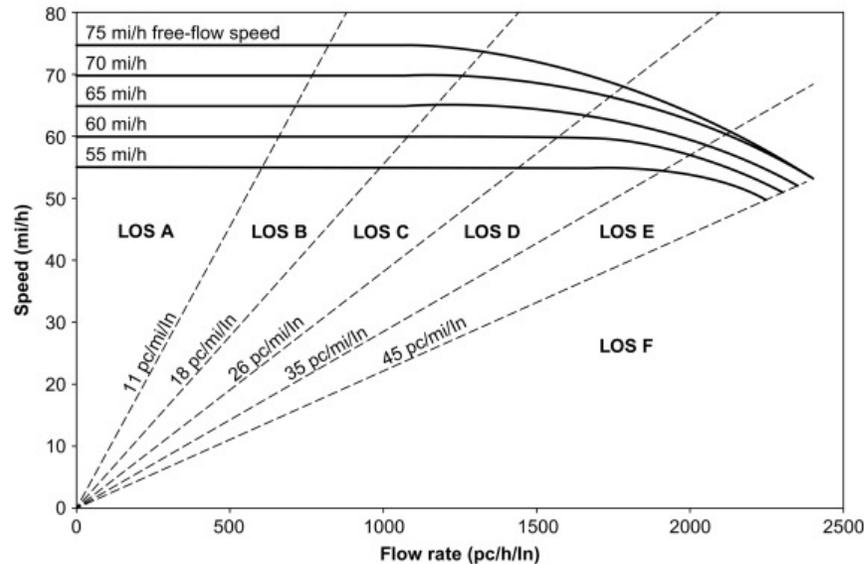
Characteristics, Studies, **Safety**, Traffic Flow, Intersections



Introduction to Street Design Criteria, Operations

Characteristics, Studies, Safety, **Traffic Flow**, Intersections

Fig. 5.6 shows the LOS that is based on the base speed-flow curves. The lines of constant slopes beginning at the origin represent density. Each of the defined LOS is characterized by a specific range on the speed-flow curves.



Level of Service	General Operating Conditions
A	Free flow
B	Reasonably free flow
C	Stable flow
D	Approaching unstable flow
E	Unstable flow
F	Forced or breakdown flow

Customary Level of Service	
Functional Class	Suburban, Urban, Urban Core, and Rural Town
Freeway	C or D
Arterial	C or D
Collector	D
Local	D

Source: AASHTO A Policy on Geometric Design of Highways and Streets, 2018

Introduction to Street Design Criteria, Operations

Forecasting Travel Demand, Evaluating Transportation Alternatives

Lois Drive & W. 32nd Avenue Pathway

January 2020

2006 Anchorage Bowl Park, Natural Resource & Recreational Facility Plan	No designated park land in the project area.
Wetlands Management Plan (March 2012)	No designated wetlands in the project area.
Traffic Calming	Lois Drive (Benson Boulevard to W. 36th Avenue) is listed in the 2019 Neighborhood Traffic Calming Program Qualified Streets list.
Electric Utility Undergrounding 5-year Plan	Project corridor is not included in the Distribution Facilities Undergrounding Plan.
Street Lighting (MOA Design Criteria Manual)	Roadway (collector, medium pedestrian conflict area): <ul style="list-style-type: none"> • Minimum Average Illuminance - 0.9 fc • Uniformity Ratio – 4.0:1 • Veiling Luminance Ratio - 0.4:1 Roadway (local, medium pedestrian conflict area): <ul style="list-style-type: none"> • Minimum Average Illuminance - 0.7 fc • Uniformity Ratio – 6.0:1 • Veiling Luminance Ratio - 0.4:1 Intersections (collector/local) <ul style="list-style-type: none"> • Average – 1.6 (fc) • Uniformity Ratio – 4.0:1
Geotechnical Hazards Plan	Zone 2 (moderately-low ground failure susceptibility) and Zone 4 (high ground failure susceptibility).
Drainage Plan	No drainage plans identified for project corridor.
Anchorage Wastewater Master Plan (2014)	No identified projects in project corridors.
Anchorage Water Master Plan (2012)	No identified projects in project corridor.
Background Documents	None.

Lois Drive & W. 32nd Avenue Pathway

January 2020

**Area Specific Plans:
West Anchorage
District Plan (2012)**

Transportation goal:

- Plan for and maintain a safe, efficient, cost-effective, and context sensitive multi-modal transportation system.
- Transportation objectives:
 - Objective #2: Expand or complete trail connections that link residential areas and key destinations such as businesses, schools, and employment centers.
 - Objective #3: Plan for and develop an efficient road network that accommodates current and future traffic volumes appropriately, including the safe movement of passenger vehicles, trucks, freight movement, bicycles, and pedestrians.
 - Objective #4: Develop roads and other transportation facilities that support and enhance surrounding land uses.

Neighborhood goal:

- Encourage the protection and enhancement of unique neighborhoods and offer a diverse range of housing options that respond to our northern climate.
- Neighborhood objectives:
 - Objective #1: Protect neighborhood character and quality of life through context sensitive planning of road improvements, enforcing improved residential and commercial design standards, and maintaining convenient access to recreation/open space opportunities.

Land Use Designations along the project corridor:

- Low/Medium Intensity (greater than 8 and up to 15 housing units per acre):
 - Provides for a range of single- and multi-family housing in neighborhoods that offer a compatible diversity of housing choices.
 - Greater than 8 and up to 15 housing units per acre.
- Schools and Community Institutions
 - Provides for small- to medium-size institutions that can readily integrate at the local neighborhood scale and provide a community service or focus for the surrounding area.
- Office – Low Intensity
 - Provides for small- to medium-sized office buildings with business, professional, and medical services.
 - A mix of multi-family residential with the office land use is encouraged.
- Town Center
 - Provides a focal point for integrating community-serving retail, public services, civic facilities, and residential housing.
 - Encourages mixed uses and residential uses up to 40 housing units per acre.

Identified projects/plans:

- Lois Drive from the West/Romig campus to W. 31st Avenue is identified as an “all-inclusive connectivity” route.
- Lois Drive and W. 32nd Avenue, within the project area, are identified as “existing and planned pedestrian facilities per Functional Plans.”

**Anchorage Bowl 2025
Long Range
Transportation Plan
(LRTP) with 2027
Revisions**

Project corridor is not identified in this plan.

**2010 Anchorage Bicycle
Plan**

Project corridor is not identified in this plan.

2007 Pedestrian Plan

Identified projects/plans:

- Missing sidewalk: 32nd Avenue (Lois to Minnesota) (priority #23).
- Missing sidewalk: Lois Drive (Northern Lights to 36th Avenue) (priority #94).

Introduction to Street Design Criteria, Planning

Forecasting Travel Demand, Evaluating Transportation Alternatives



Source: FDOT Context Classification Guide

Introduction to Street Design Criteria, Planning

Forecasting Travel Demand, Evaluating Transportation Alternatives

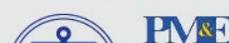


CONCEPT REPORT

FINAL
MARCH 2020
MOA Project #19-08

LOIS DRIVE & WEST 32ND AVENUE PATHWAY
BENSON BOULEVARD TO MINNESOTA DRIVE

Prepared for:



Lois Drive & W. 32nd Avenue Pathway

January 2020

Project Description / Nomination Form Lois Drive and W. 32 nd Avenue Pathway	
Municipality of Anchorage	PM&E Project #: 19-08 Project Manager: Russ Oswald, PE, PLS (MOA PM&E) Project Administrator: Brooke Blessing (MOA PM&E) Consultant: CRW Engineering Group, LLC & Huddle
Nominated by	MOA
Problems to Be Solved	The Municipality of Anchorage (MOA) is studying alternatives to upgrade Lois Drive (from Benson Boulevard to W. 32nd Avenue) and W. 32nd Avenue (from Lois Drive to Minnesota Drive) to improve non-motorized connectivity by constructing a new roadway. The project corridor lacks continuous pedestrian facilities and also experiences traffic congestion and drainage issues. This project will evaluate transportation network alternatives to improve the roadway conditions and enhance safety and accessibility for vehicles and non-motorized users.
Known Issues	<ul style="list-style-type: none"> • Lack of pedestrian facilities • Deteriorated roadway surface • Lack of storm drain infrastructure
Community Councils	Spenard Community Council
House District 18	Harriet Drummond
Senate District I	Elvi Gray-Jackson
Assembly District 3	Kameron Perez-Verdia and Austin Quinn-Davidson
Schools	Turnagain Elementary School, Northwood Elementary School, Romig Middle, West High
Parks	None
MOA Grid	SW1628
Zoning	R-2M, R-3, R-4, R-O, and PLI
Utilities	Gas, electric, cable, fiber optic, water, sewer, storm drain
Roadway	
Right-of-Way Width	Lois Drive – 60 to 64 feet

Introduction to Street Design Criteria, Planning

Forecasting Travel Demand, Evaluating Transportation Alternatives

Guiding Plans	
Official Streets & Highways Plan (OS&HP) (2014)	<ul style="list-style-type: none"> Functional Classification (Lois Drive): Neighborhood Collector <ul style="list-style-type: none"> Collector Streets collect traffic from local streets and move it to higher classified streets or to local traffic generators such as shopping centers. Collectors should be designed to provide priority to through traffic movement and provide limited land access to adjacent properties. Pedestrian facilities should be provided to allow for safe access between activity centers such as schools and parks. Neighborhood Collectors should have two lanes and a minimum right-of-way width of 60 feet. Functional Classification (W. 32nd Avenue): local road <ul style="list-style-type: none"> The primary function of local roads is to provide access to abutting properties. Local roadway design varies depending on the type of development being served and the physical characteristics of the land. Local Roads should have two lanes and a minimum ROW width of 50 – 60 feet.
2035 Metropolitan Transportation Plan (MTP) (2012)	<ul style="list-style-type: none"> The following projects are identified in the MTP: <ul style="list-style-type: none"> Construct missing sidewalk on 32nd Avenue (Lois Drive to Minnesota Drive) Construct missing sidewalk on Lois Drive (Northern Lights Blvd. to 36th Avenue) The following goals apply to this project: <ul style="list-style-type: none"> Goal 5: Establish community connectivity with safe, convenient, year-round automobile and non-automobile travel routes within and between neighborhoods, commercial centers, and public facilities. Goal 7: Provide a transportation system that provides viable transportation choices among various modes.

Anchorage 2040 Land Use Plan (LUP) (2017)	<p>The following policies apply to this project:</p> <ul style="list-style-type: none"> Policy 6.3: Adopt and execute a Complete Streets policy to design streets to serve all users, including pedestrians, transit riders, and bicyclists, and align the design and scale of streets to be compatible with compact, accessible, and walkable land use patterns. Policy 8.2 Provide new and improved trails, greenbelts, and other pedestrian facilities as alternative travel ways connecting open spaces, neighborhoods, and centers. <p>Land Use Plan Actions</p> <ul style="list-style-type: none"> The northern limit of the project corridor (Northern Lights Blvd./Benson Blvd.) is designated as Transit-supportive Development Corridor. <p>Land Use Designations</p> <ul style="list-style-type: none"> Compact Mixed Residential – Low: <ul style="list-style-type: none"> Provides for a compatible, diverse range of single-family, attached, and smaller-scale apartment housing choices in the same neighborhood. Provides a transition from more intense uses or traffic volumes to lower intensity residential areas. Primarily R2-M zoning with R-2D zoning in transition areas. Neighborhood Center <ul style="list-style-type: none"> Provides small- to medium-size retail centers that serve one or more surrounding neighborhoods. Urban design reduces dependence on motor vehicle travel to local services. B1-A and B-1B zoning. Town Center <ul style="list-style-type: none"> Provides a focal point of activity for a group of neighborhoods and serves as a destination for shopping, entertainment, and services. Integrated with adjoining compact medium-density neighborhoods with convenient, direct walking and bicycle connections to adjoining neighborhoods. B-3, B-1B, R-3, and R-3A zoning. Community Facility or Institution <ul style="list-style-type: none"> Provides for a public or institutional facility that is integrated with the neighborhoods and provide a community service or focus for the area. Pedestrian connectivity is provided to schools and community institutions. Uses include schools, community recreation centers, fire stations, libraries, etc. PLI, I-1, and I-2 zoning. <p>Areas of Growth and Change</p> <ul style="list-style-type: none"> The project corridor is expected to have significant growth (northeast side of the project corridor), moderate growth (west side of the corridor), and little growth (north and south sides of the corridor) by 2040.
Anchorage Bowl 2020 Comprehensive Plan (Anchorage 2020) (2001)	<ul style="list-style-type: none"> The Northern Lights Blvd./Benson Blvd./Minnesota Drive are identified as a Town Center in the Land Use Policy Map. The following policies apply to this project: <ul style="list-style-type: none"> Policy 37: design, construct, and maintain roadways or rights-of-way to accommodate pedestrians, bicyclists, transit users, the disabled, automobiles, and trucks where appropriate. Policy 38: Design, construct, and maintain roadways or rights-of-way to promote and enhance physical connectivity within and between neighborhoods. Policy 54: Design and construct neighborhood roads and walkways to ensure safe pedestrian movement and neighborhood connectivity and to discourage high-speed, cut through traffic.

Introduction to Street Design Criteria, Planning

Forecasting Travel Demand, Evaluating Transportation Alternatives

Lois Drive & W. 32nd Avenue Pathway

January 2020

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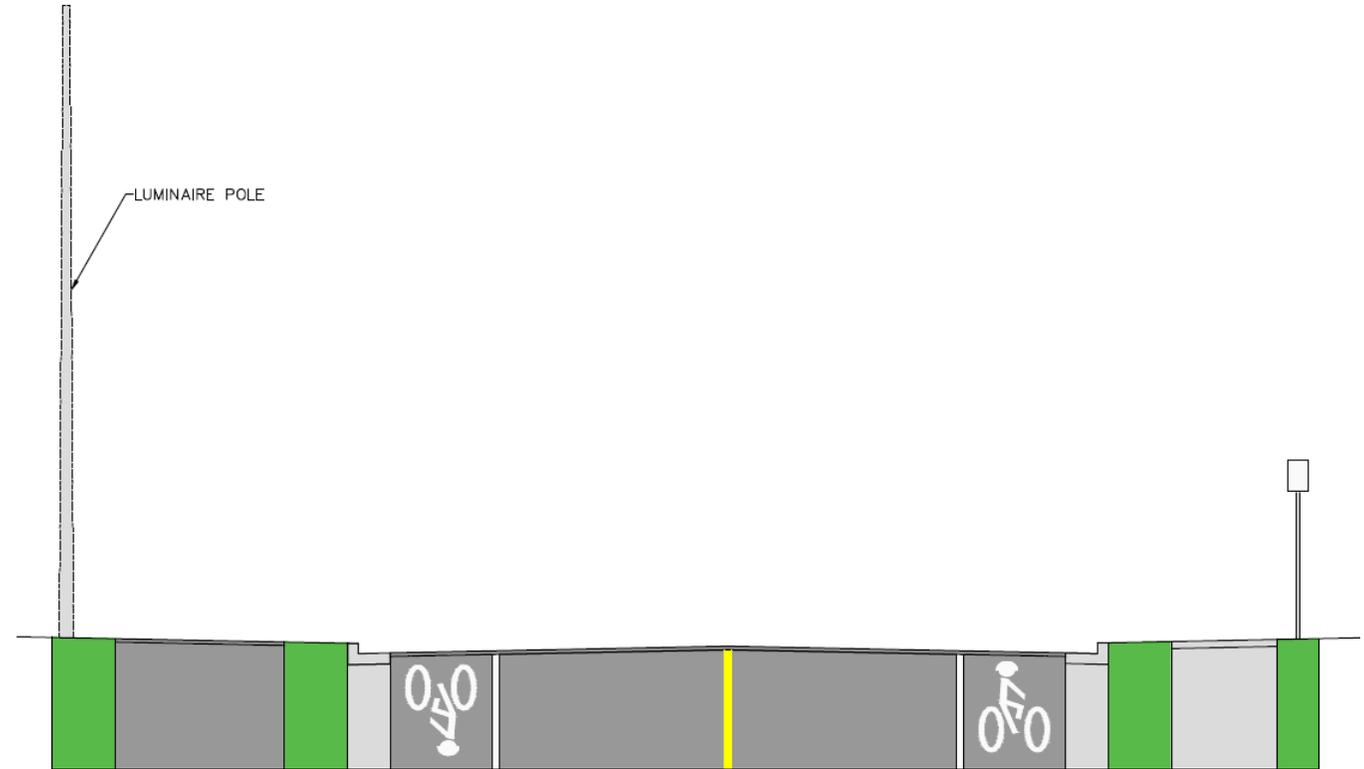
Lois Drive & W. 32nd Avenue Pathway

January 2020

Area Specific Plans: West Anchorage District Plan (2012)	<p>Transportation goal:</p> <ul style="list-style-type: none"> • Plan for and maintain a safe, efficient, cost-effective, and context sensitive multi-modal transportation system. • Transportation objectives: <ul style="list-style-type: none"> ○ Objective #2: Expand or complete trail connections that link residential areas and key destinations such as businesses, schools, and employment centers. ○ Objective #3: Plan for and develop an efficient road network that accommodates current and future traffic volumes appropriately, including the safe movement of passenger vehicles, trucks, freight movement, bicycles, and pedestrians. ○ Objective #4: Develop roads and other transportation facilities that support and enhance surrounding land uses. <p>Neighborhood goal:</p> <ul style="list-style-type: none"> • Encourage the protection and enhancement of unique neighborhoods and offer a diverse range of housing options that respond to our northern climate. • Neighborhood objectives: <ul style="list-style-type: none"> ○ Objective #1: Protect neighborhood character and quality of life through context sensitive planning of road improvements, enforcing improved residential and commercial design standards, and maintaining convenient access to recreation/open space opportunities. <p>Land Use Designations along the project corridor:</p> <ul style="list-style-type: none"> • Low/Medium Intensity (greater than 8 and up to 15 housing units per acre): <ul style="list-style-type: none"> ○ Provides for a range of single- and multi-family housing in neighborhoods that offer a compatible diversity of housing choices. ○ Greater than 8 and up to 15 housing units per acre. • Schools and Community Institutions <ul style="list-style-type: none"> ○ Provides for small- to medium-size institutions that can readily integrate at the local neighborhood scale and provide a community service or focus for the surrounding area. • Office – Low Intensity <ul style="list-style-type: none"> ○ Provides for small- to medium-sized office buildings with business, professional, and medical services. ○ A mix of multi-family residential with the office land use is encouraged. • Town Center <ul style="list-style-type: none"> ○ Provides a focal point for integrating community-serving retail, public services, civic facilities, and residential housing. ○ Encourages mixed uses and residential uses up to 40 housing units per acre. <p>Identified projects/plans:</p> <ul style="list-style-type: none"> • Lois Drive from the West/Romig campus to W. 31st Avenue is identified as an “all-inclusive connectivity” route. • Lois Drive and W. 32nd Avenue, within the project area, are identified as “existing and planned pedestrian facilities per Functional Plans.”
Anchorage Bowl 2025 Long Range Transportation Plan (LRTP) with 2027 Revisions	Project corridor is not identified in this plan.
2010 Anchorage Bicycle Plan	Project corridor is not identified in this plan.
2007 Pedestrian Plan	<p>Identified projects/plans:</p> <ul style="list-style-type: none"> • Missing sidewalk: 32nd Avenue (Lois to Minnesota) (priority #23). • Missing sidewalk: Lois Drive (Northern Lights to 36th Avenue) (priority #94).

Introduction to Street Design Criteria, Geometrics & Drainage

Sections, Alignments, Profiles, Grade, Drainage, Erosion Control



Introduction to Street Design Criteria, Geometrics & Drainage

Sections, **Alignments**, Profiles, Grade, Drainage, Erosion Control



Introduction to Street Design Criteria, Geometrics & Drainage

Sections, Alignments, Profiles, **Grade**, Drainage, Erosion Control



Introduction to Street Design Criteria, Geometrics & Drainage

Sections, Alignments, Profiles, Grade, **Drainage, Erosion Control**



ANCHORAGE STORMWATER MANUAL

Volume 1

Management and Design Criteria

(Design Criteria Manual Chapter 2 – Drainage)

Version 1.0
December 2017



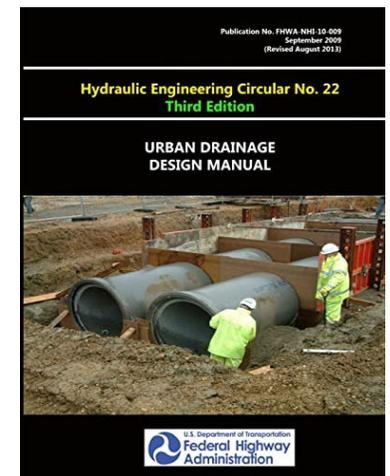
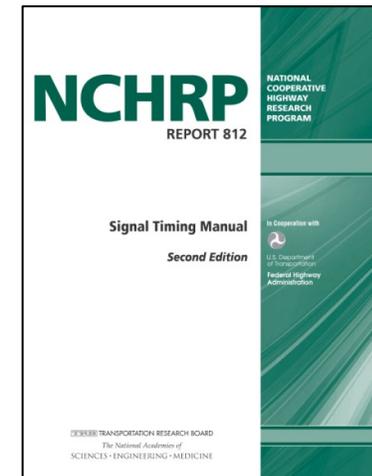
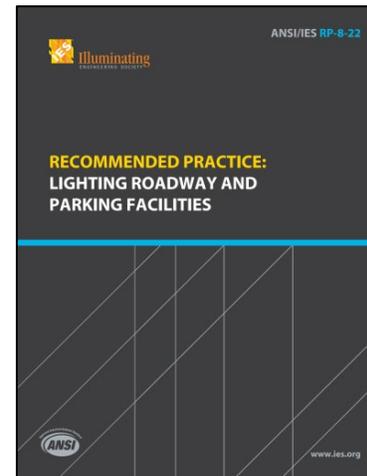
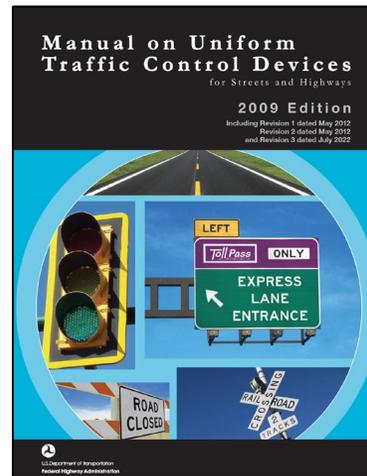
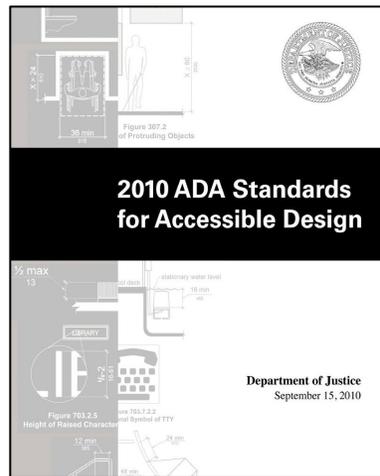
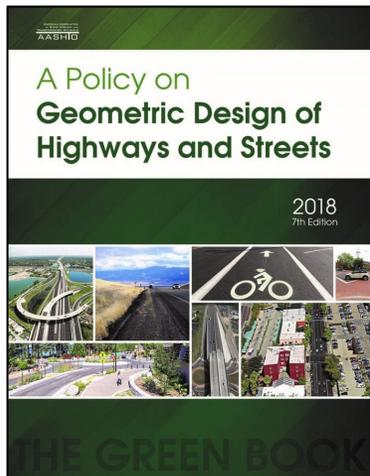
Introduction to Street Design Criteria, Materials & Pavement

Soils, Classified Materials, Asphalt, Concrete



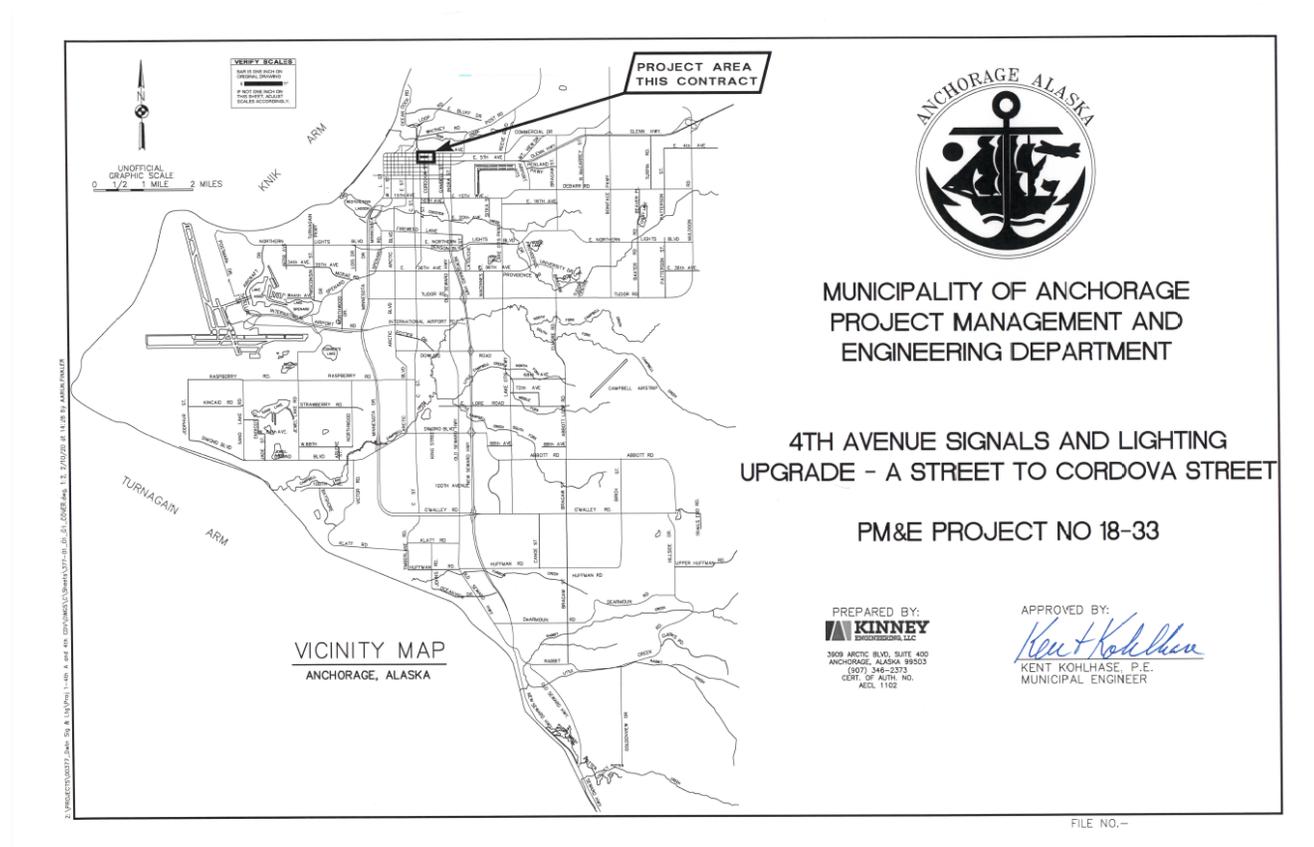
What is the DCM?

- Establishes minimum standards for road, trail, and drainage projects specific to Anchorage's climate, geology, and topography.
- Founded on nationally recognized industry standards and regulation.
- Intended to be a comprehensive resource for designers.
- Fulfills regulatory obligations and conditions.
 - SOA DEC Alaska Pollutant Discharge Elimination System (APDES) Program
 - US EPA National Pollution Discharge Elimination System (NPDES) Permit Program



What is the DCM?

- Communicates criteria and guidance to engineers and other designers for the development of road and drainage projects.
- Directs engineers and designers to plans, policies, and code requirements that influence projects.
- Does not provide Engineering 101.



Where Does the DCM Apply?

STREETS

- PUBLIC & PRIVATE STREETS

STORM DRAIN

- PUBLIC & PRIVATE STREETS
- PUBLIC & PRIVATE PROPERTY (EXEMPTIONS FOR SINGLE-FAMILY AND DUPLEX)

LANDSCAPING

- PUBLIC STREETS
- PARKS & GREENBELTS

TRAILS

- PUBLIC RIGHT-OF-WAY
- PARKS & GREENBELTS

LIGHTING

- PUBLIC & PRIVATE STREETS

TRAFFIC CONTROL

- PUBLIC & PRIVATE STREETS

PUBLIC TRANSPORTATION

- PUBLIC & PRIVATE STREETS

PLANS & SPECIFICATIONS

- PUBLIC STREET & STORM DRAIN PROJECTS

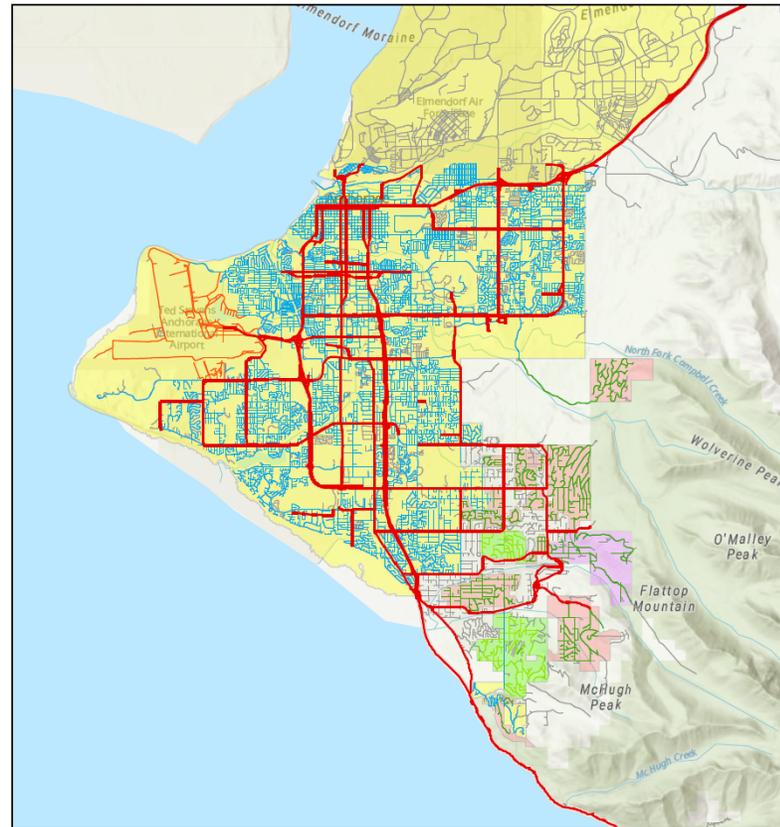
Where Does the DCM not Apply? AK DOT Roads



Alaska
Department of
Transportation
and
Public Facilities

Alaska Highway Preconstruction Manual

October 31, 2023

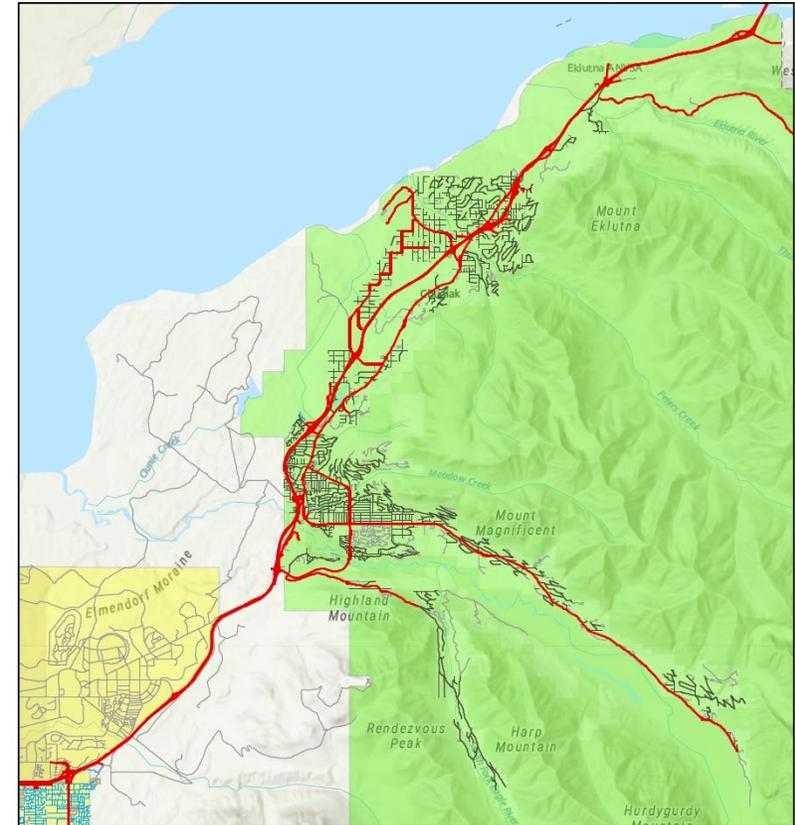


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Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS



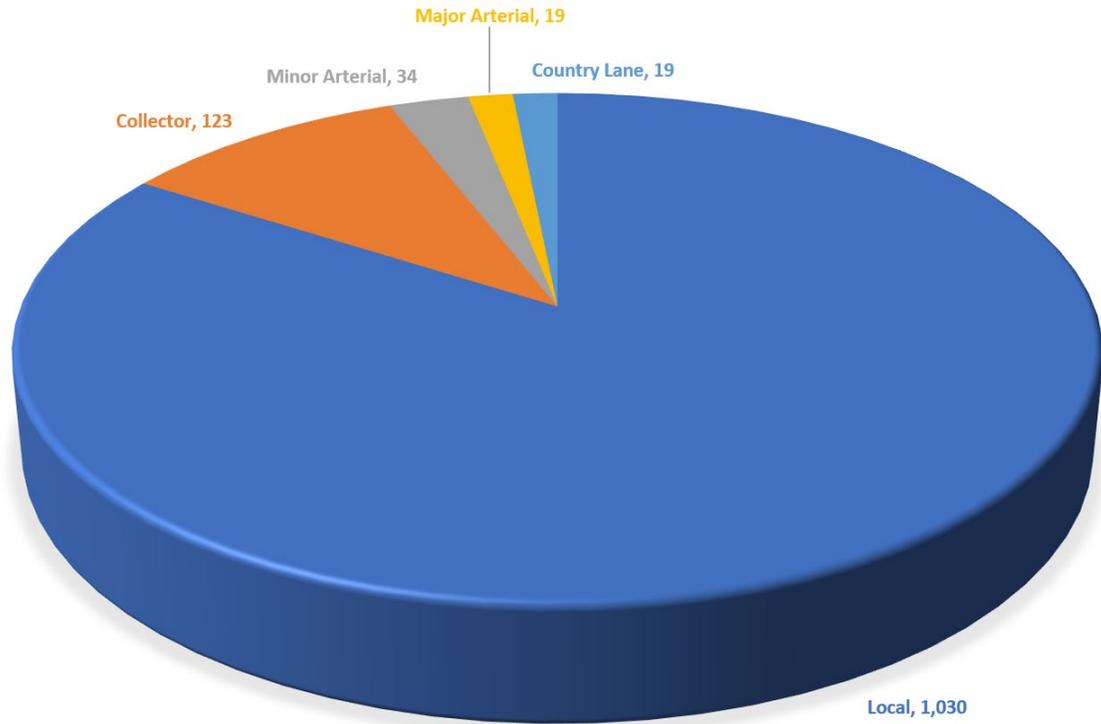
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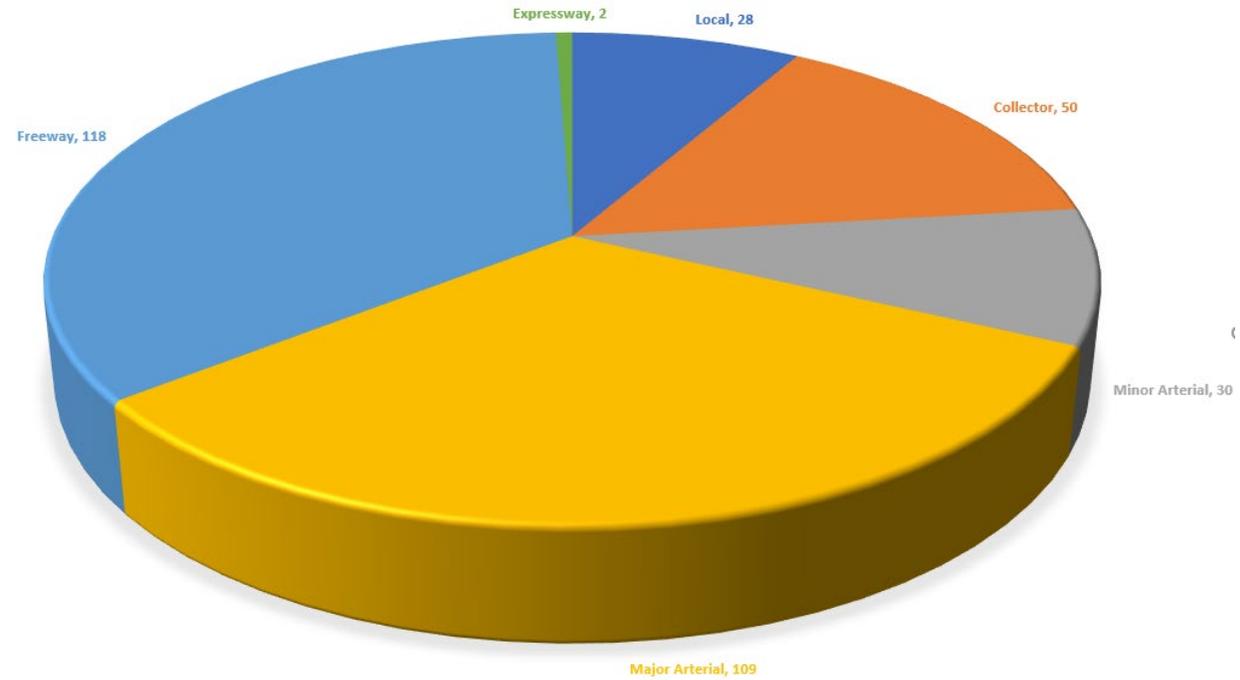


Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

MOA Owned Streets by Functional Classification
(miles)

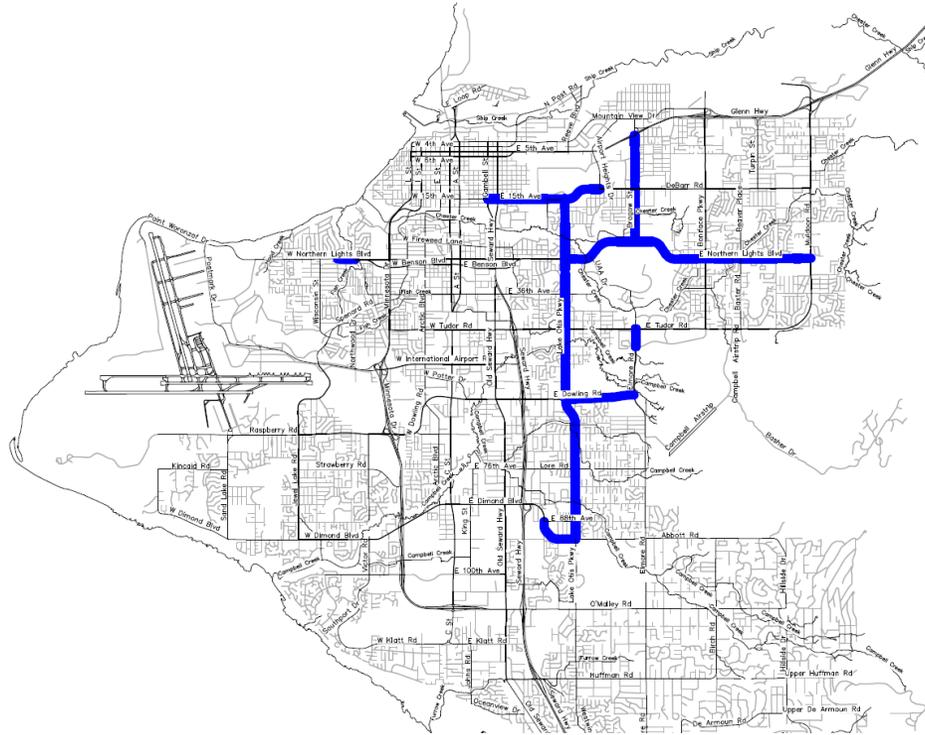


AK DOT Owned Streets by Functional Classification
(miles)

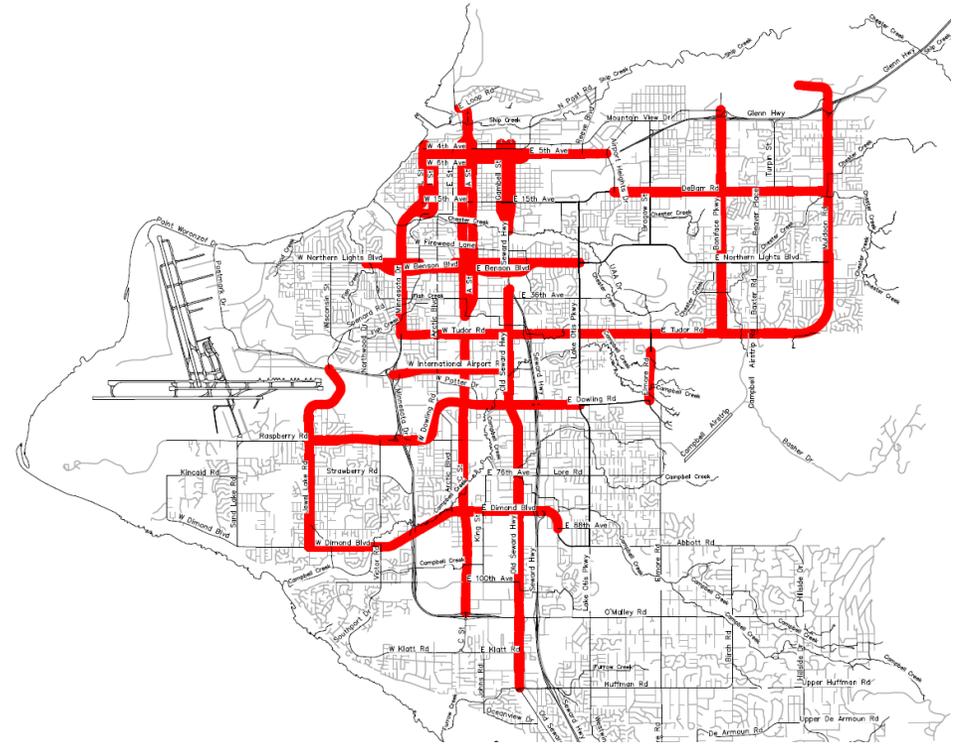


Road Ownership by Functional Classification

MOA Owned Major Arterials



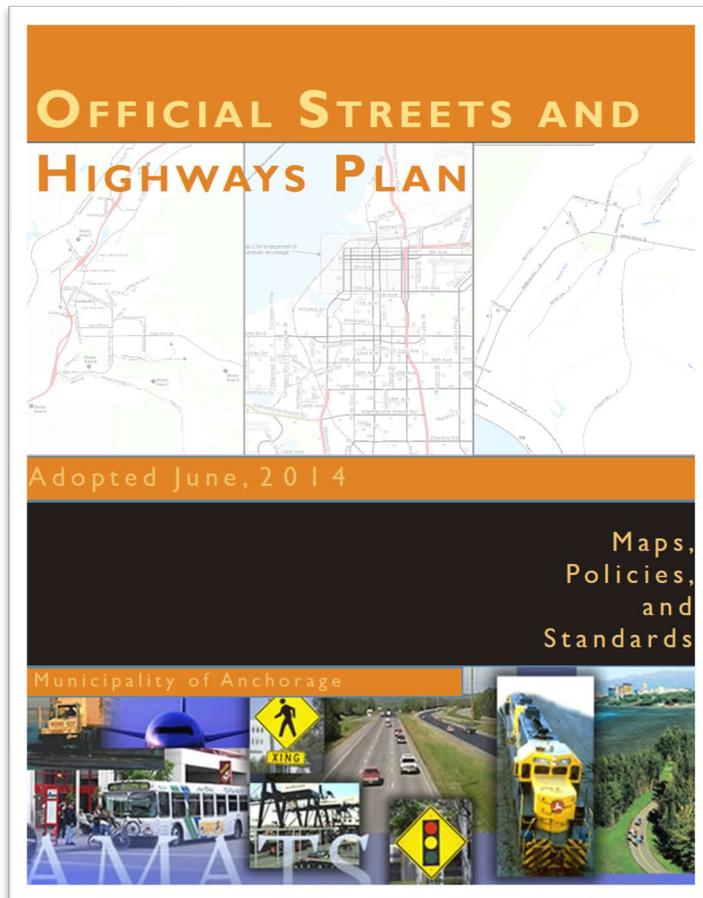
AK DOT Owned Major Arterials



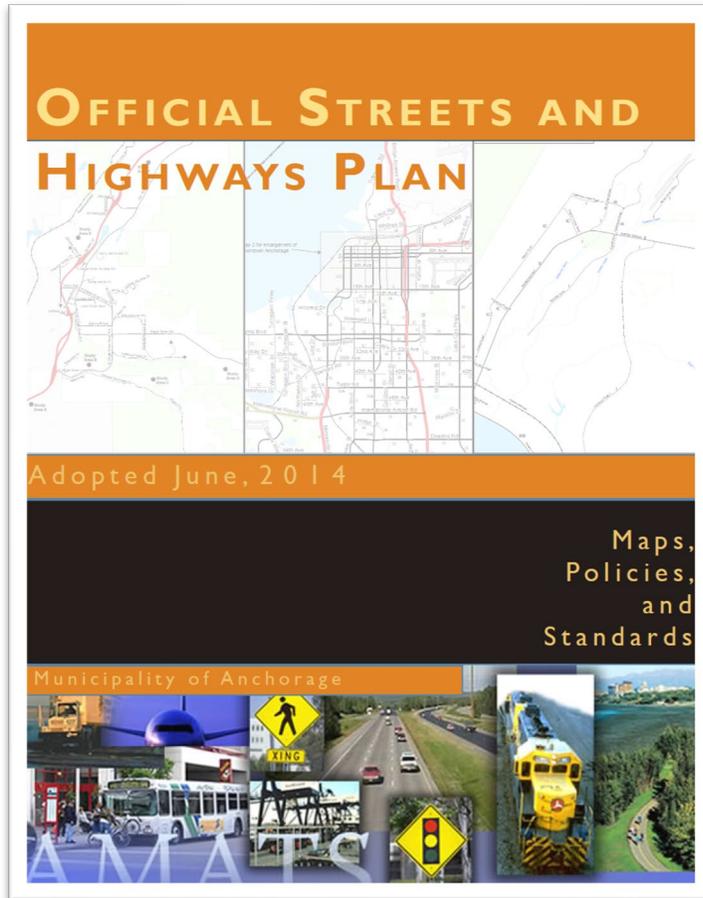
Road Ownership by Functional Classification

Introduction to the DCM, Relationship to OSHP

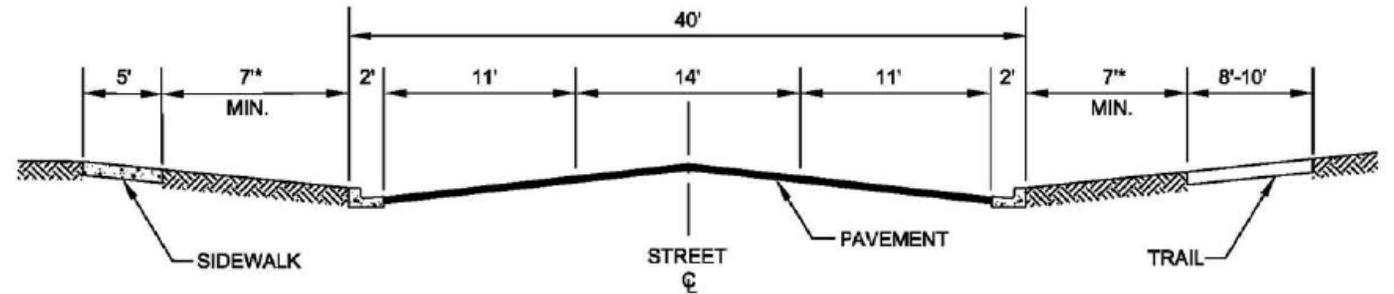
- The OSHP defines the functional classification for roads in Anchorage
- From NACTO Urban Street Design Guide
“Functional classification is an ordering system that defines “the part that any particular road or street should play in serving the flow of trips through a highway network.” Functional classification categorizes streets according to their ability to 1) move traffic and 2) provide access to adjacent properties.”
- The DCM defines criteria and guidance for roads based on their functional classification in the OSHP.



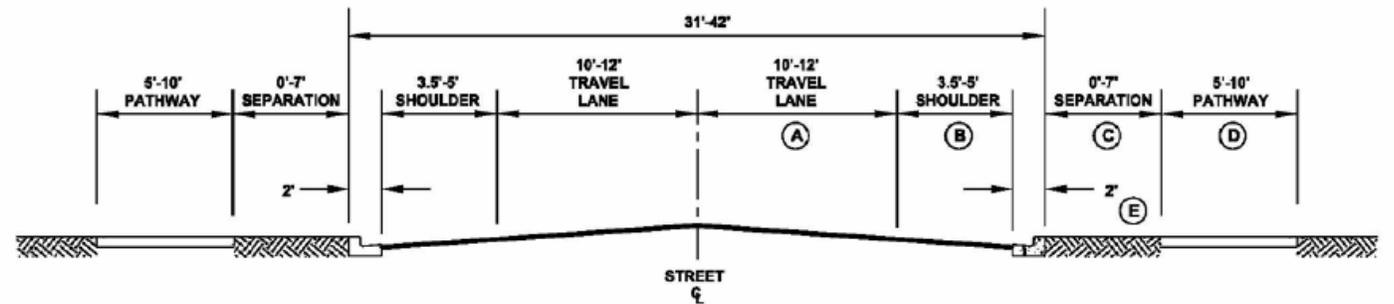
Introduction to the DCM, Relationship to OSHP



DCM Figure 1-8 Class II Minor Arterial Typical Section



DCM Figure 1-11 Collector Road Typical Section



Introduction to the DCM, Relationship to Code

AMC Title 21 Includes design standards for roads.

AMC 21.07.060 – Transportation and Connectivity

AMC 21.08.050 – Improvements (Subdivisions)

AMC 21.09.070 – Side Development and Design Standards (Girdwood)

AMC 21.10.070 – Development and Design Standards (Chugiak-Eagle River)

AMC 21.11.070 – Development and Design Standards (Downtown)

AMCR 21.90 – Multiple Dwelling Unit Residential Development on a Single Lot or Tract

- The DCM was adopted as regulation with Assembly Resolution No. 2013-293(S)
- Some standards live in the DCM and some in Anchorage Municipal Code (AMC)
- Standards in AMC overrule standards in the DCM
- Project Management Team will look for opportunities to better consolidate standards, including recommending code changes

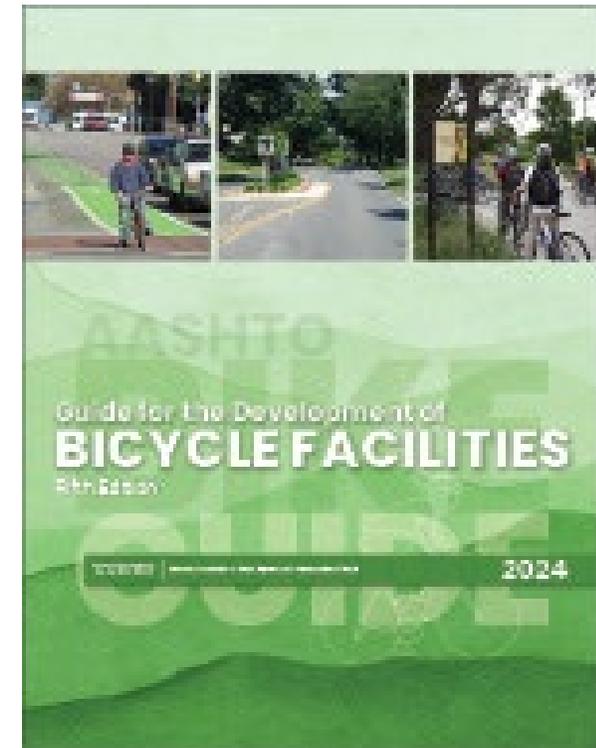
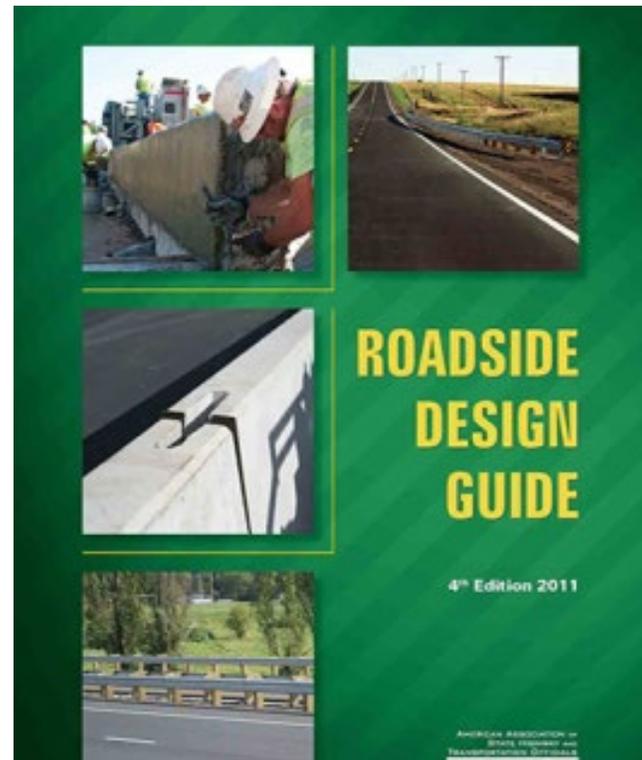
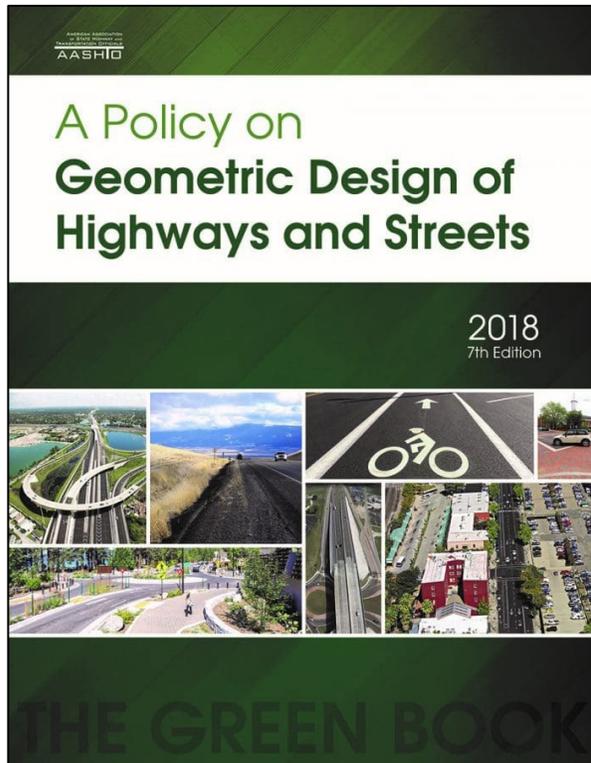
Industry Standard Guidance & Regulation

Chapter 1 – Streets	
Industry Standard Guidance	
Agency	Publication
AASHTO	A Policy on Geometric Design of Highways and Streets
AASHTO	Guide for the Development of Bicycle Facilities
AASHTO	Guide for the Geometric Design of Transit Facilities on Highways and Streets
AASHTO	Guidelines for Geometric Design of Low-Volume Roads
AASHTO	Highway Safety Manual
AASHTO	Roadside Design Guide
AASHTO	Roadway Lighting Design Guide
ASPLS	Standards of Practice for Professional Land Surveyors
ASTM	Standard Guide for Investigating and Sampling Soil and Rock (D-420)
ASTM	Unified Soil Classification System (D-2487)
FHWA	Bikeway Selection Guide (FHWA-SA-18-077)
FHWA	Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations (FHWA-SA-17-072)
FHWA	Making Our Roads Safer One Countermeasure at a Time (FHWA-SA-18-029)
FHWA	Methods and Practices for Setting Speed Limits (FHWA-SA-12-004)
FHWA	Separated Bike Lane Planning and Design Guide (FHWA-HEP-15-025)
NACTO	Designing for All Ages & Abilities
NACTO	Don't Give Up at the Intersection
NACTO	Transit Street Design Guide
NACTO	Urban Bikeway Design Guide
NACTO	Urban Street Design Guide
NACTO	Urban Street Stormwater Guide
NCHRP	Signal Timing Manual
ICC	International Fire Code
IES	Recommended Practice: Lighting Roadway and Parking Facilities
Applicable Regulation	
Agency	Publication/Regulation
ATBCB	Americans with Disabilities Act Accessibility Guidelines
ATBCB	Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way
DOT&PF	Alaska Traffic Manual
FHWA	Manual on Uniform Traffic Control Devices

Chapter 6 – Traffic Control	
Industry Standard Guidance	
Agency	Publication
AASHTO	A Policy on Geometric Design of Highways and Streets
AASHTO	Guide for the Development of Bicycle Facilities
AASHTO	Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals
ASCE	Flow Rates at Signalized Intersections Under Cold Weather Conditions (ASCE Journal of Transportation Engineering, May/June 1992)
DOT&PF	Alaska Sign Design Specifications
DOT&PF	Alaska Standard Plans
DOT&PF	Standard Specifications for Highway Construction
FHWA	Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations (FHWA-SA-17-072)
FHWA	Making Our Roads Safer One Countermeasure at a Time (FHWA-SA-18-029)
FHWA	Signalized Intersections: Informational Guide
FHWA	Traffic Signal Program Handbook
IEEE	National Electric Safety Code (ANSI C2)
ITE	Guidelines for Determining Traffic Signal Change and Clearance Intervals
ITE	Manual of Traffic Signal Design
ITE	Traffic Engineering Handbook
NCHRP	Decision-Making Guide for Traffic Signal Phasing (NCHRP #25905, Web Only #284)
NCHRP	Evaluation of Traffic Signal Displays for Protected/Permissive Left-Turn Control (NCHRP #493)
NCHRP	Signal Timing Manual (Report #812)
NACTO	Designing for All Ages & Abilities
NACTO	Don't Give Up at the Intersection
NACTO	Transit Street Design Guide
NACTO	Urban Bikeway Design Guide
NACTO	Urban Street Design Guide
NEMA	Traffic Controller Assemblies with NTCIP Requirements
NFPA	National Electrical Code (NFPA 70)
TRB	Highway Capacity Manual
TRB	Traffic Signal Systems Volume 1 & 2 (#2438 & #2439)
Applicable Regulation	
Agency	Publication/Regulation
ATBCB	Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way
DOT&PF	Alaska Traffic Manual
FHWA	Manual on Uniform Traffic Control Devices
USAB	Americans with Disabilities Act Accessibility Standards

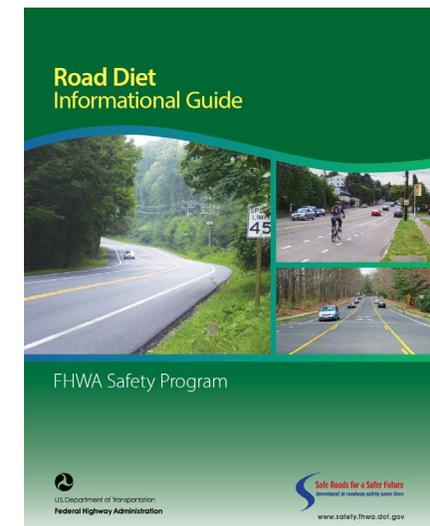
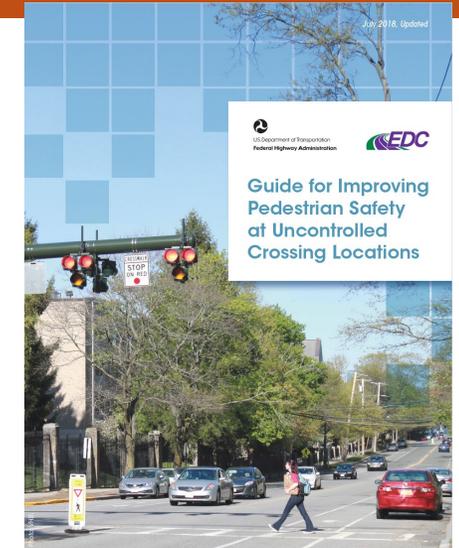
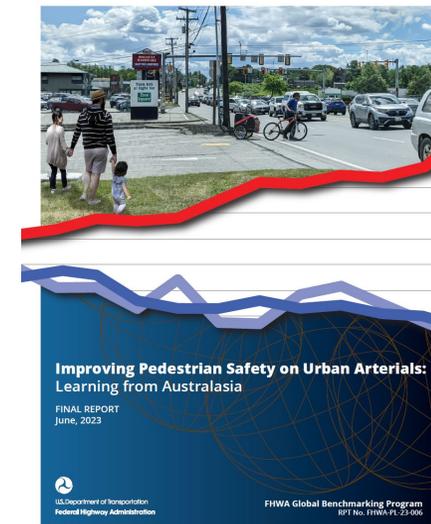
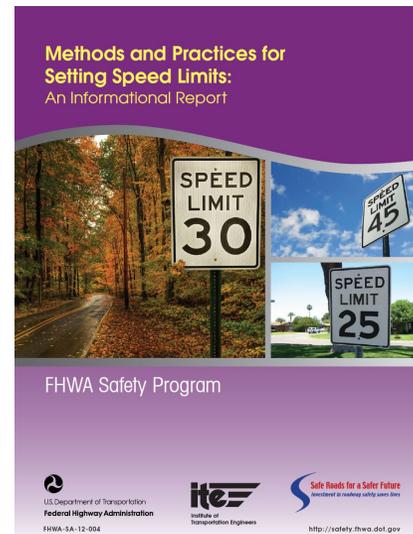
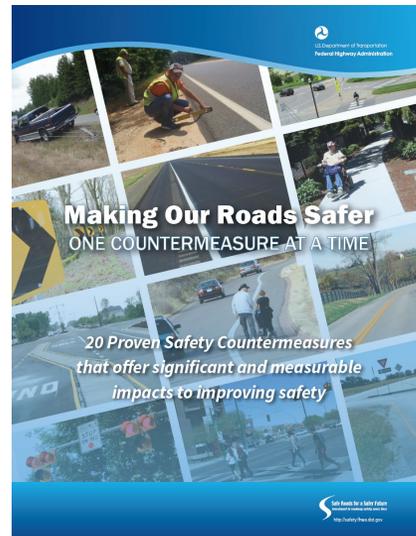
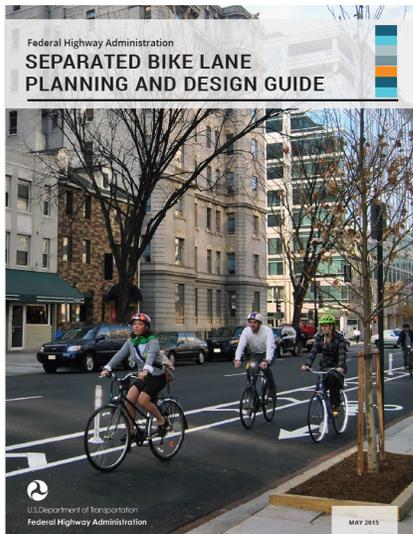
Industry Standard Guidance **AASHTO**

- American Association of State Highway Transportation Officials



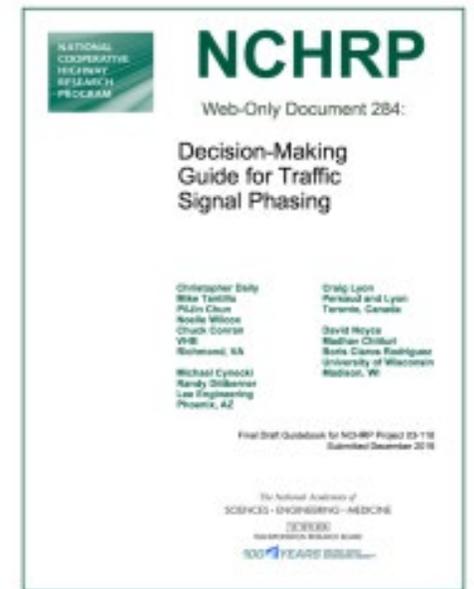
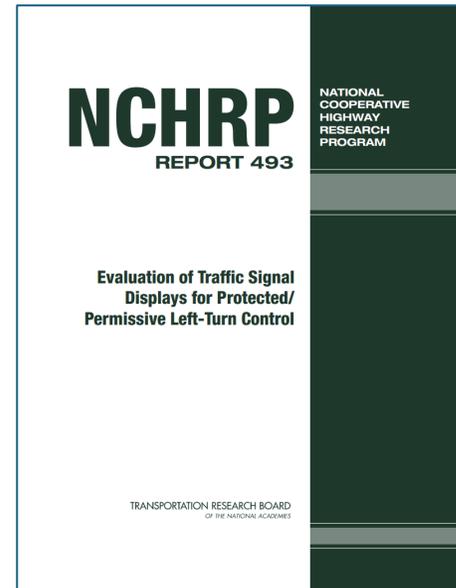
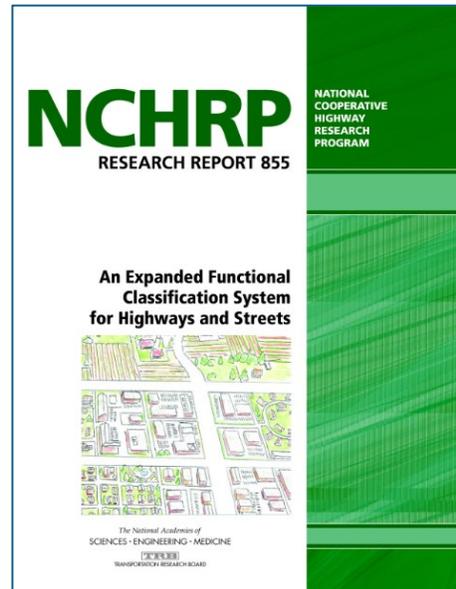
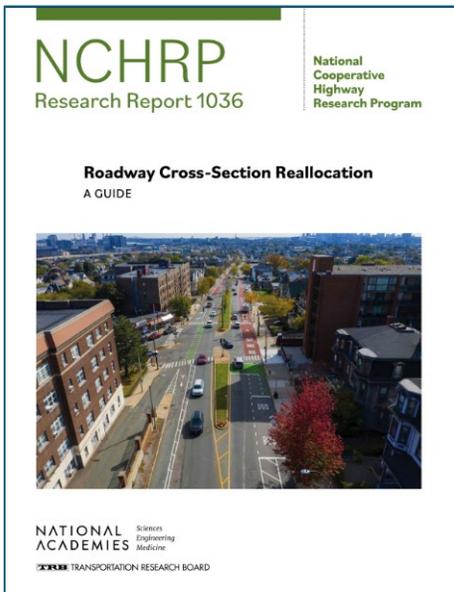
Industry Standard Guidance FHWA

- Federal Highway Administration



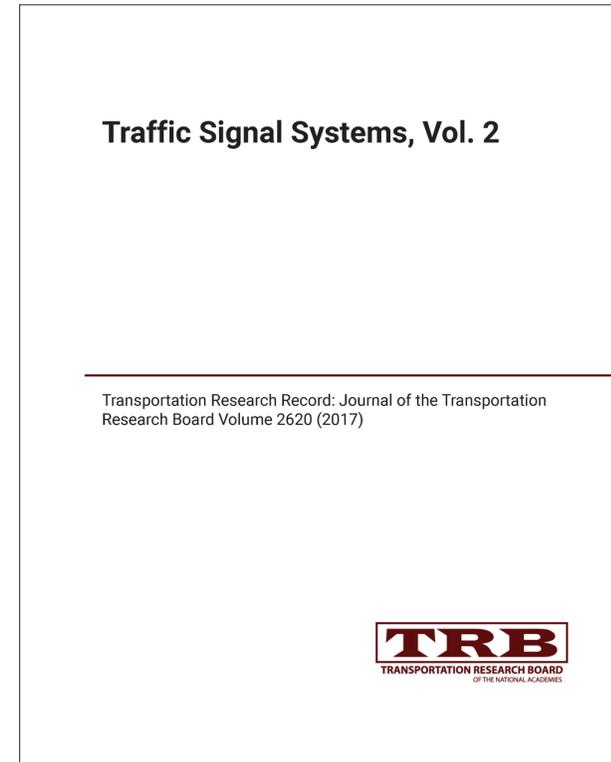
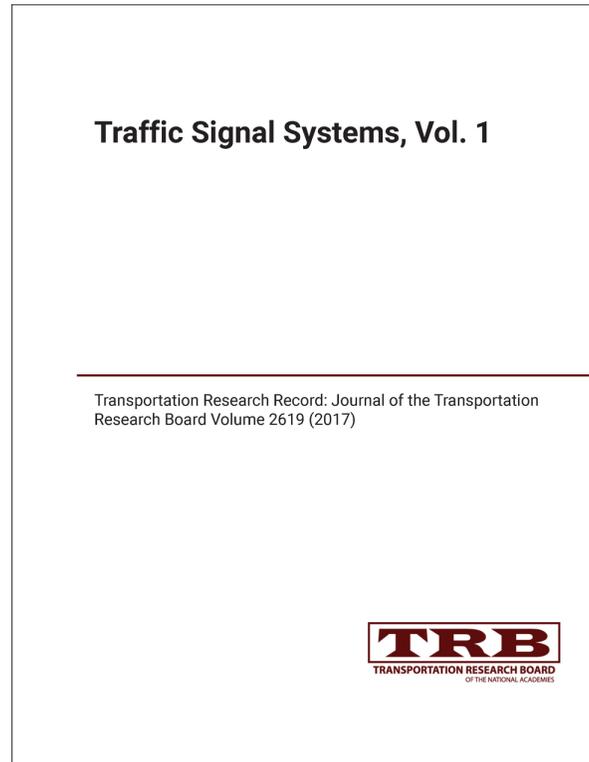
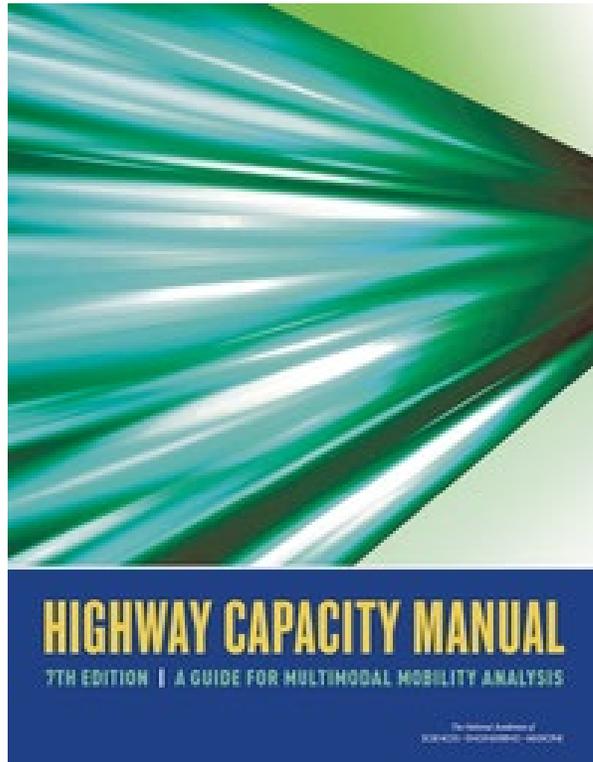
Industry Standard Guidance NCHRP

- National Cooperative Highway Research Program



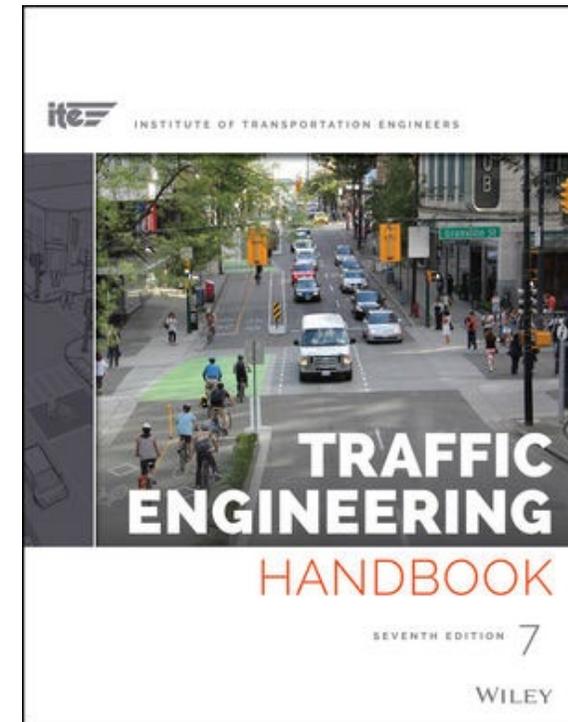
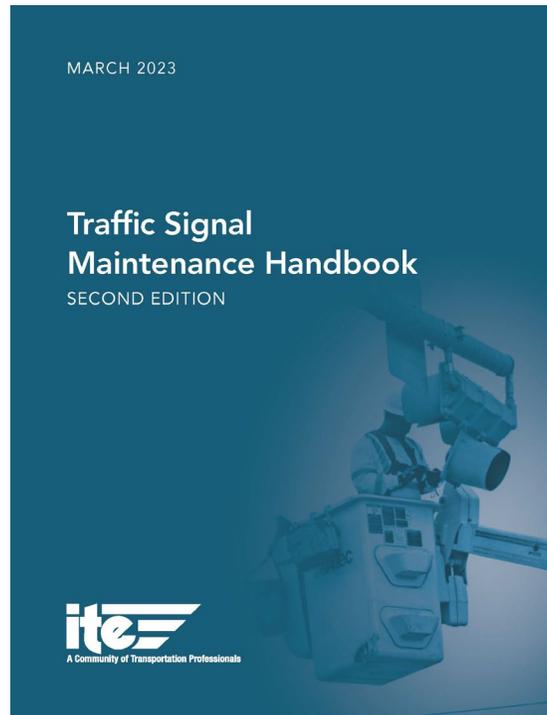
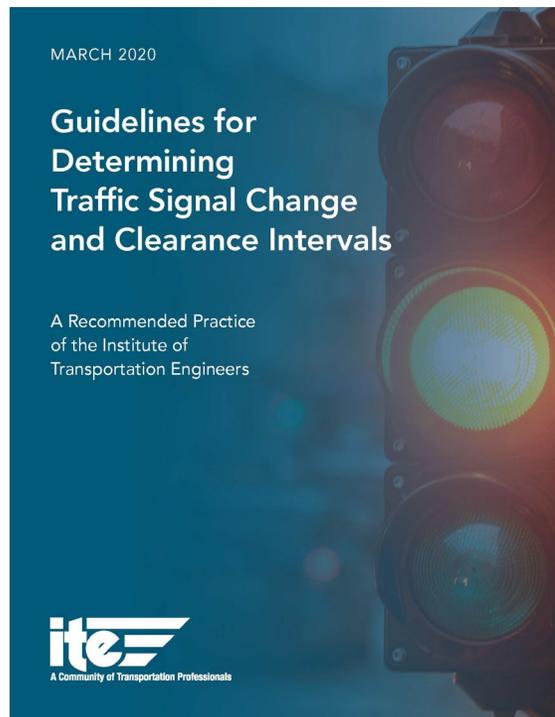
Industry Standard Guidance **TRB**

- Transportation Research Board



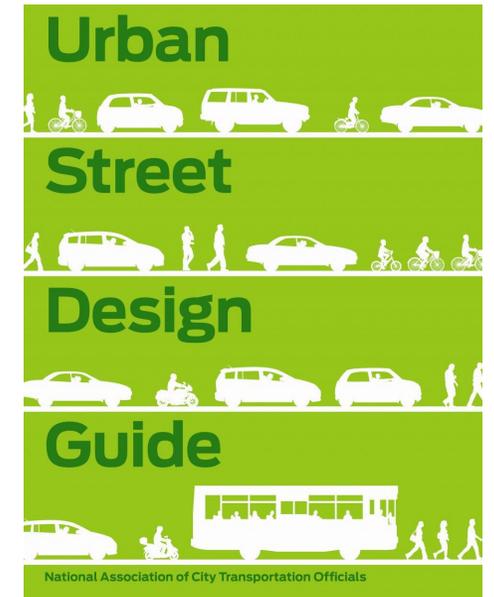
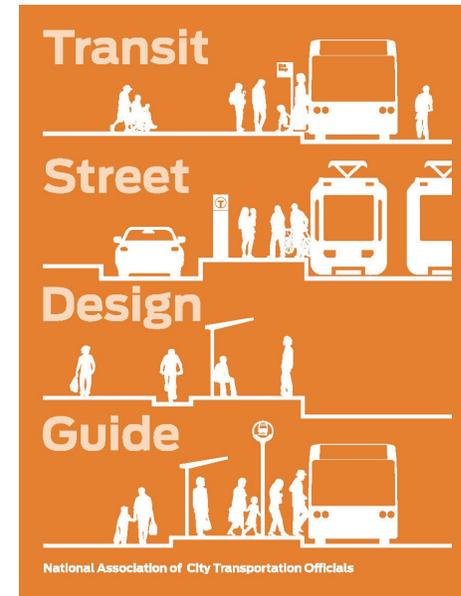
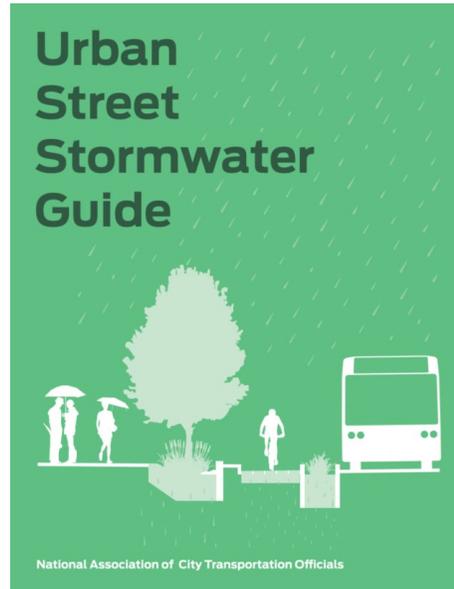
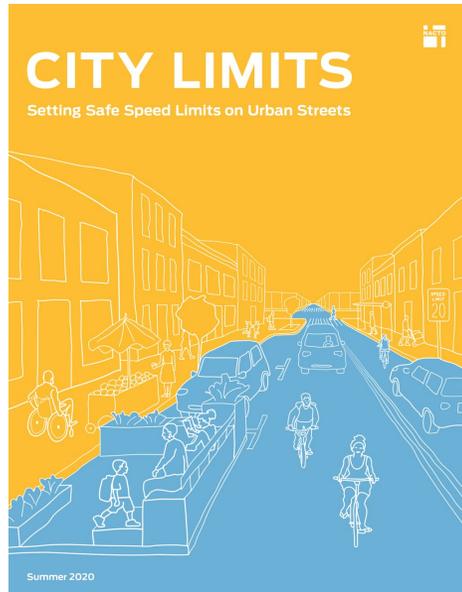
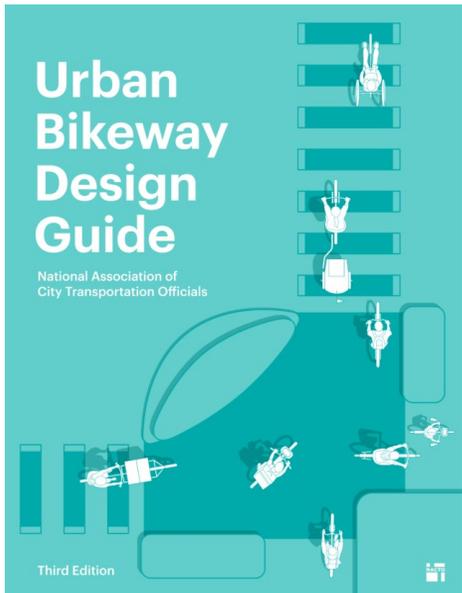
Industry Standard Guidance ITE

- ITE A Community of Transportation Professionals



Industry Standard Guidance **NACTO**

- National Association of City Transportation Officials



Industry Standard Guidance **NACTO**

- NACTO Membership
 - Full membership open to central cities in the US with a population of at least **400,000** in a Metro Area with a population of at least **2 million**
 - Affiliate membership open to cities of any size in the U.S. that do not qualify for full membership
- Anchorage is an Affiliate Member of NACTO

Full Members

Arizona

Phoenix, Arizona [Website](#)

California

Los Angeles, California [Website](#)

Sacramento, California [Website](#)

San Francisco, California [Website](#)

San Jose, California [Website](#)

Colorado

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Georgia

Atlanta, Georgia [Website](#)

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Maryland

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Boston, Massachusetts [Website](#)

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Houston, Texas [Website](#)

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Washington

Seattle, Washington [Website](#)

Industry Standard Guidance **NACTO**

NACTO Neighborhood Street



Anchorage Neighborhood Street



Industry Standard Guidance Regulation

- US Department of Transportation
- US Access Board
- International Fire Code

