

Ozarks Transportation Organization

DESIGN Standards



Adopted Standards

The Board of Directors most recently amended these Design Standards on April 20, 2017. The Major Thoroughfare Plan may be amended separately from the standards. The most recent version can be found on the OTO website.

Learn More

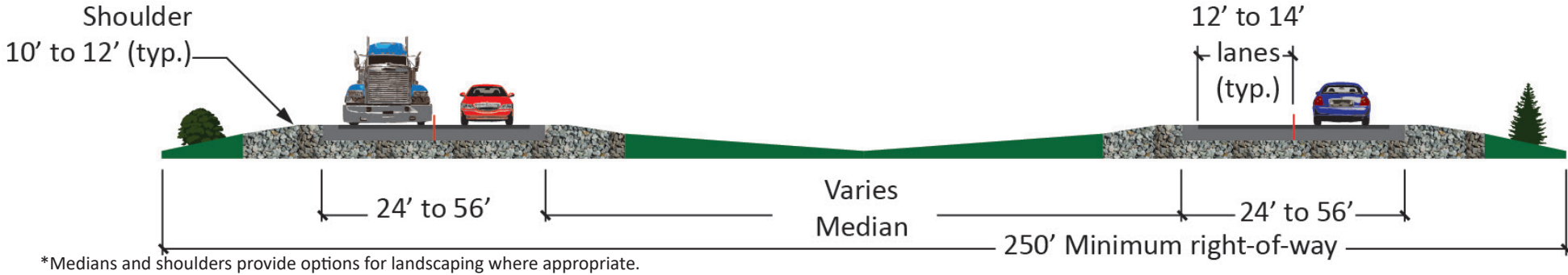
The Ozarks Transportation Organization's Major Thoroughfare Plan (MTP) provides guidelines for designing a roadway network for the efficient movement of people and goods throughout the metropolitan area. The MTP classifies roadways based on their intended function and shows both existing and future roadways. These future major transportation corridors should serve as a general guide for securing street rights-of-way, though the locations are general in nature and final alignments will depend on a detailed location study. The classifications shown on the MTP map direct the application of the OTO Design Standards.

The OTO adopted design standards are desired minimums based on the recommendations of the MTP. These standards are intended for new construction or the retrofitting of existing roadways. In the event that a roadway project has not been constructed, but it has been designed and right-of-way has been purchased to previous standards, the project is not required to meet these standards. Otherwise, deviations from the OTO design standards require a variance from a special subcommittee of the OTO Technical Planning Committee.

About the OTO

The Ozarks Transportation Organization is the Springfield-regional Metropolitan Planning Organization, or MPO. The MPO is a body of elected and appointed members who work together with local, state, and federal elected officials and policy-makers, serving to make funding and planning decisions for transportation within the Springfield, MO region.

Freeway



Description

Design Service Volume	20,000 - 100,000
Design Speed	55 - 70 mph
Traffic Flow/Access Priority	99/1
Facility Spacing	4 - 8 miles
Trip Length	Between cities and across metropolitan area (2+ miles)

Basics

Minimum Right-of-Way	250' minimum
Number of Lanes	4 - 8
Lane Width	12' to 14' per lane
Drainage/Shoulders	Variable. Minimum 10' - 12' shoulder

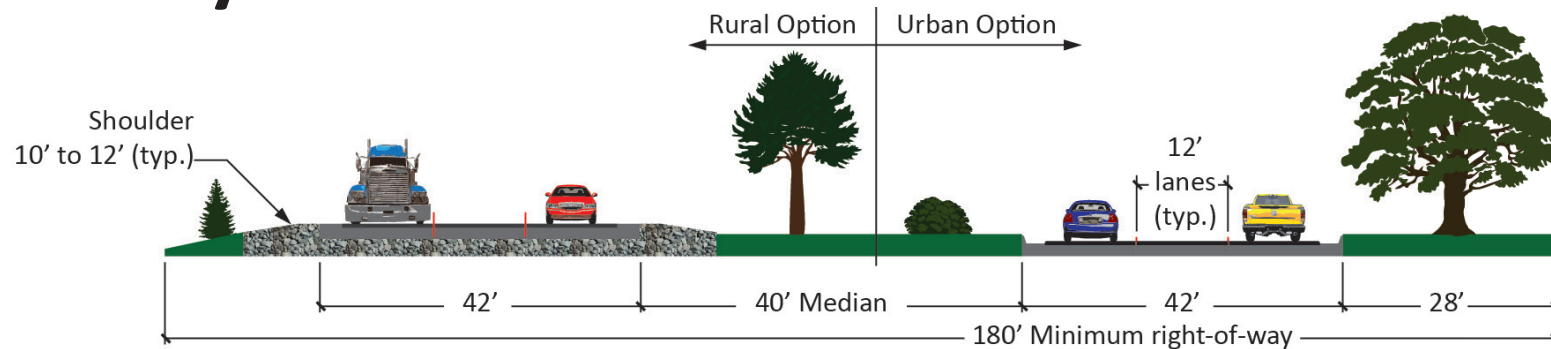
Access

Median	Varies
Full Median Break Spacing	Not permitted
Directional Median Break Spacing	Not permitted
Interchange Spacing	1 - 3 miles
Full Access Intersection Spacing	Not permitted
Residential Driveway Spacing	Not permitted
Commercial Driveway Spacing	Not permitted

Multi-Modal

On-Street Parking	Not permitted
Pedestrian Provisions	Pedestrians prohibited (no sidewalks required)
Bicycle Provisions	Bicycles not recommended
Transit Provisions	No stops, express routes only

Expressway



*Medians and shoulders provide options for landscaping where appropriate.

An additional 40' is needed on each side if frontage roads are needed

Description

Design Service Volume	20,000 - 50,000
Design Speed	40 - 55 mph
Traffic Flow/Access Priority	90/10
Facility Spacing	3 - 5 miles
Trip Length	Across metropolitan area and between major activity centers (2+ miles)

Basics

Minimum Right-of-Way	180' + 40' each side if frontage roads are needed
Number of Lanes	4 - 6
Turning Lanes	At intersections only
Lane Width	12' (plus shoulders in rural areas only)
Drainage/Shoulders	Curb and gutter or shoulders (rural areas)

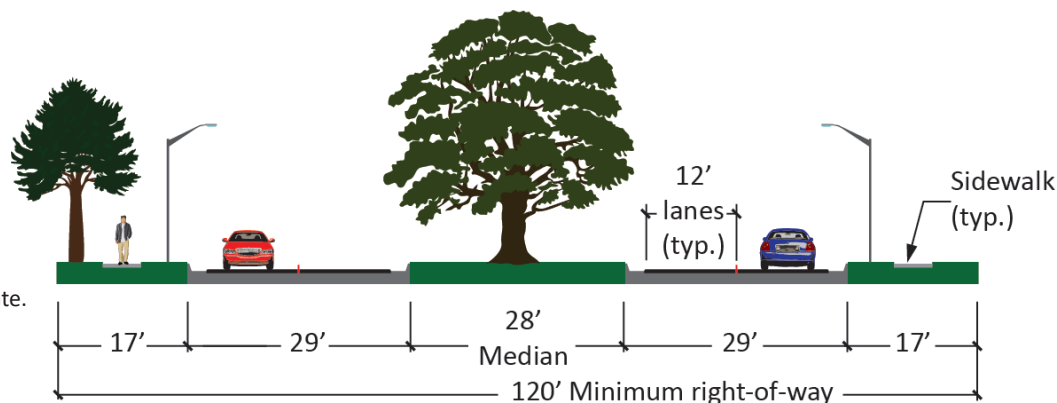
Access

Median	40' landscaped
Median Breaks	Allowed at signalized intersections only
Full Access Intersection Spacing	1/2 mile
Intersection	Left and right turn lanes desired
Residential Driveway Spacing	No residential drives permitted
Commercial Driveway Spacing	660' (right-in/right-out only)

Multi-Modal

On-Street Parking	Not permitted
Pedestrian Provisions	Sidewalks required on frontage roads
Bicycle Provisions	Bicycle lane provided on frontage roads
Transit Provisions	Turnouts at major generators

Boulevard



- *Medians and shoulders provide options for landscaping where appropriate.
- *Utility and greenspace areas may switch locations if needed.
- *Utilities may be placed under sidewalks.

Description

Design Service Volume	10,000 - 40,000
Design Speed	35 - 45 mph
Traffic Flow/Access Priority	70/30
Facility Spacing	3 - 5 miles
Trip Length	Across metropolitan area and between major activity centers (2+ miles)

Basics

Minimum Right-of-Way	120' plus intersection triangles
Number of Lanes	4
Turning Lanes	At intersections only; left and right turn lanes desired
Lane Width	12' per lane
Minimum Area Behind Curb	17' used for sidewalks, utilities, and landscaping (where appropriate)
Drainage/Shoulders	Curb and gutter; 6' -10' for shoulders (if used)

Access

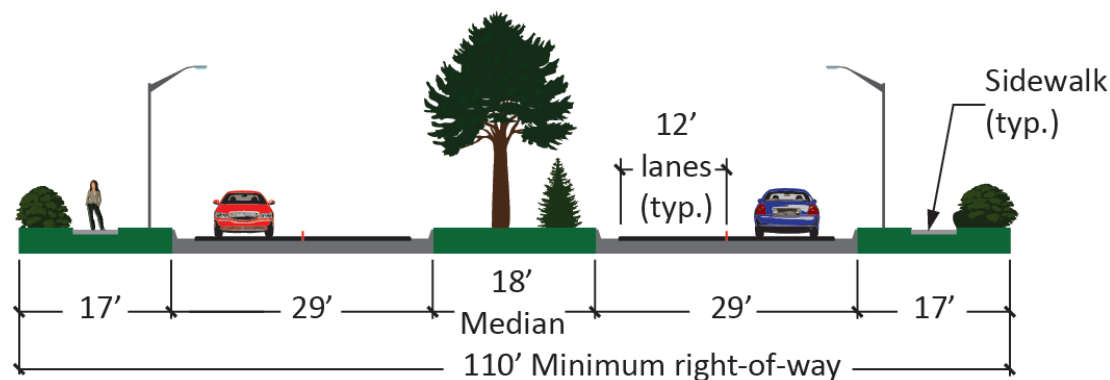
Median	28' (landscaping desired)
Median Breaks	Allowed at signalized intersections only
Directional Median Break Spacing	660'
Full Access Intersection Spacing	1/4 mile
Intersection	Left and right turn lanes desired
Residential Driveway Spacing	No residential drives permitted
Commercial Driveway Spacing	330' center-to-center (right-in/right-out only). Allowed only if internal circulation, cross access, and minimum driveway radii and grade are provided.

Multi-Modal

On-Street Parking	Not permitted
Pedestrian Provisions	4' - 6' (minimum) sidewalks on both sides
Bicycle Provisions	Bicycle facilities provided according to adopted bicycle plan
Transit Provisions	Turnouts at major generators

Primary Arterial

- *Medians and shoulders provide options for landscaping where appropriate.
- *Utility and greenspace areas may switch locations if needed.
- *Utilities may be placed under sidewalks.



Description

Design Service Volume	10,000 - 30,000
Design Speed	35 - 45 mph
Traffic Flow/Access Priority	70/30
Facility Spacing	1 - 2 miles
Trip Length	Between and through major activity centers (2 - 8 miles)

Basics

Minimum Right-of-Way	110' plus intersection triangles
Number of Lanes	4 - 6
Turning Lanes	At intersections only
Lane Width	12' per lane
Minimum Area Behind Curb	17' used for sidewalks, utilities, and landscaping (where appropriate)
Drainage/Shoulders	Curb and gutter; shoulders permitted in rural areas (6' - 10')

Access

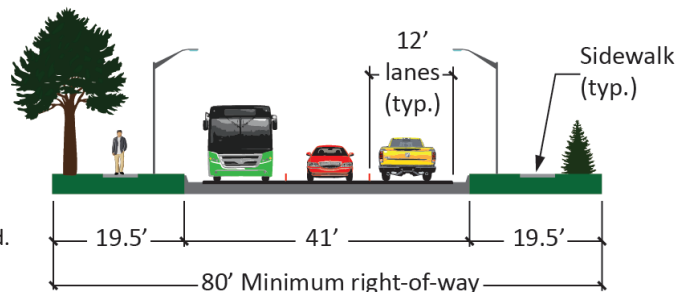
Median	18'
Median Breaks	Allowed at signalized intersections only
Directional Median Break Spacing	660'
Full Access Intersection Spacing	1/4 mile
Intersection	Left and right turn lanes desired
Residential Driveway Spacing	No residential drives permitted
Commercial Driveway Spacing	330' center-to-center (right-in/right-out only). Allowed only if internal circulation, cross access, and minimum driveway radii and grade are provided.

Multi-Modal

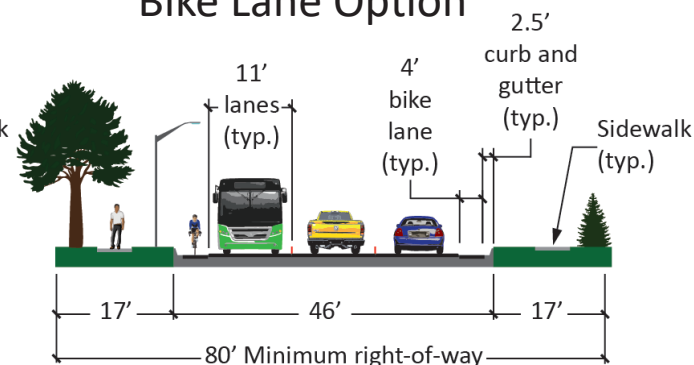
On-Street Parking	Not permitted
Pedestrian Provisions	4' - 5' (minimum) sidewalks on both sides
Bicycle Provisions	Bicycle facilities provided according to adopted bicycle plan
Transit Provisions	Scheduled stops every 1/4 mile (where transit service is provided)

Secondary Arterial

- *Medians and greenspace provide options for landscaping where appropriate.
- *Utility and greenspace areas may switch locations if needed.
- *Utilities may be placed under sidewalks.



Bike Lane Option



Description

Design Service Volume	6,000 - 20,000
Design Speed	30 - 35 mph
Traffic Flow/Access Priority	60/40
Facility Spacing	1/2 - 1 mile
Trip Length	Between and within activity centers (1 - 4 miles)

Basics

Minimum Right-of-Way	80' plus intersection triangles
Number of Lanes	2 - 3
Turning Lanes	Left turn lane
Lane Width	12' (bicycle routes: 11' vehicle and 4' bicycle lanes)
Minimum Area Behind Curb	19.5' (17' when bicycle lanes are provided) used for sidewalks, utilities, and landscaping (where appropriate)
Drainage/Shoulders	Curb and gutter; shoulders permitted in rural areas (6' - 10')

Access

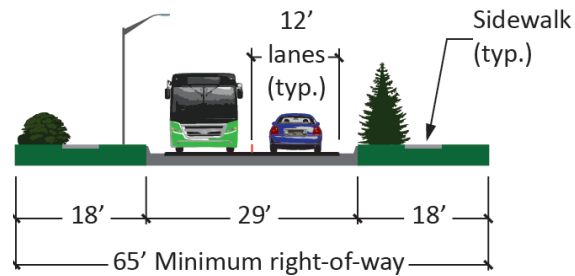
Median	Not required
Full Access Intersection Spacing	660'
Intersection	4 lanes
Residential Driveway Spacing	No residential drives permitted
Commercial Driveway Spacing	210' center-to-center. Allowed only if internal circulation, cross access, and minimum driveway radii and grade are provided.

Multi-Modal

On-Street Parking	Not permitted
Pedestrian Provisions	4' - 5' (minimum) sidewalks on both sides
Bicycle Provisions	Bicycle facilities provided according to adopted bicycle plan
Transit Provisions	Scheduled stops every 1/4 mile (where transit service is provided)

Collector

- *Medians and greenspace provide options for landscaping where appropriate.
- *Utility and greenspace areas may switch locations if needed.
- *Utilities may be placed under sidewalks.



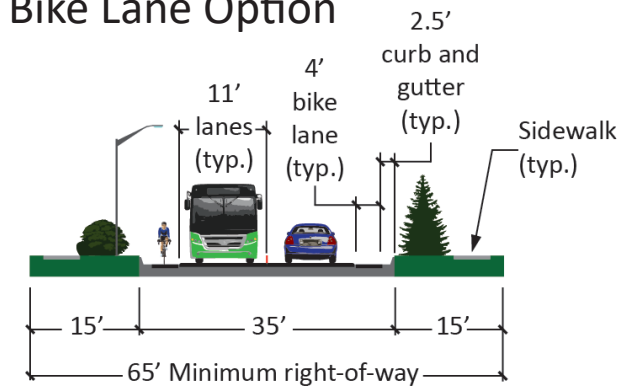
Description

Design Service Volume	1,500 - 8,000
Design Speed	30 mph
Traffic Flow/Access Priority	30/70
Facility Spacing	1/4 - 1/2 mile
Trip Length	Local street to arterial street (1/2 to 2 miles)

Basics

Minimum Right-of-Way	65' plus intersection triangles
Number of Lanes	2
Turning Lanes	Left turn lane when needed
Lane Width	12' (bicycle routes: 11' vehicle and 4' bicycle lanes)
Minimum Area Behind Curb	18' (15' when bicycle lanes are provided) used for sidewalks, utilities, and landscaping (where appropriate)
Drainage/Shoulders	Curb and gutter; shoulders permitted in rural areas (6' - 10')

Bike Lane Option



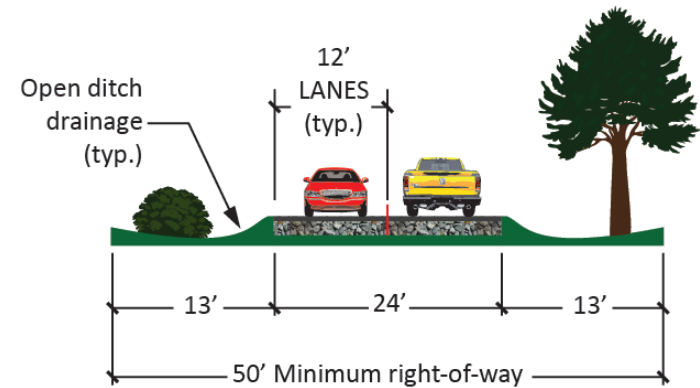
Access

Median	Not required
Full Access Intersection Spacing	660'
Intersection	Up to 4 lanes
Residential Driveway Spacing	No residential drives permitted
Commercial Driveway Spacing	160' center-to-center

Multi-Modal

On-Street Parking	Not permitted
Pedestrian Provisions	4' - 5' (minimum) sidewalks on both sides
Bicycle Provisions	Bicycle facilities provided according to adopted bicycle plan
Transit Provisions	Scheduled regular and paratransit service

Rural Collector



Description

Design Service Volume	1,500 - 8,000
Design Speed	30 mph
Traffic Flow/Access Priority	30/70
Facility Spacing	1/4 - 1/2 mile
Trip Length	Local street to arterial street (1/2 to 2 miles)

Basics

Minimum Right-of-Way	50'
Number of Lanes	2
Turning Lanes	Left turn lane when needed
Lane Width	12'
Minimum Area Behind Curb	13' used for utilities and open ditch (where appropriate)
Drainage/Shoulders	Open ditch

Access

Median	Not required
Full Access Intersection Spacing	660'
Intersection	up to 4 lanes
Residential Driveway Spacing	Residential driveways are discouraged; 200' center-to-center if no other alternative is available
Commercial Driveway Spacing	160' center-to-center

Multi-Modal

On-Street Parking	Not permitted
Pedestrian Provisions	No sidewalks required
Bicycle Provisions	Bicycle facilities provided according to adopted bicycle plan



OZARKS TRANSPORTATION ORGANIZATION

A METROPOLITAN PLANNING ORGANIZATION

2208 W. Chesterfield Blvd., Suite 101
417-865-3042

This report was prepared in cooperation with the USDOT, including FHWA and FTA, as well as the Missouri Department of Transportation. The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the Missouri Highways and Transportation Commission, the Federal Highway Administration or the Federal Transit Administration.

