Complete Streets Ames

DRAFT STREET DESIGN FRAMEWORK & STREET TYPES

APRIL 2018

Outline

- Current Street Design Approach
- New Street Design Approach
  - Place Types
  - Transportation Function
  - Street Types
- Performance Measures

Project Background

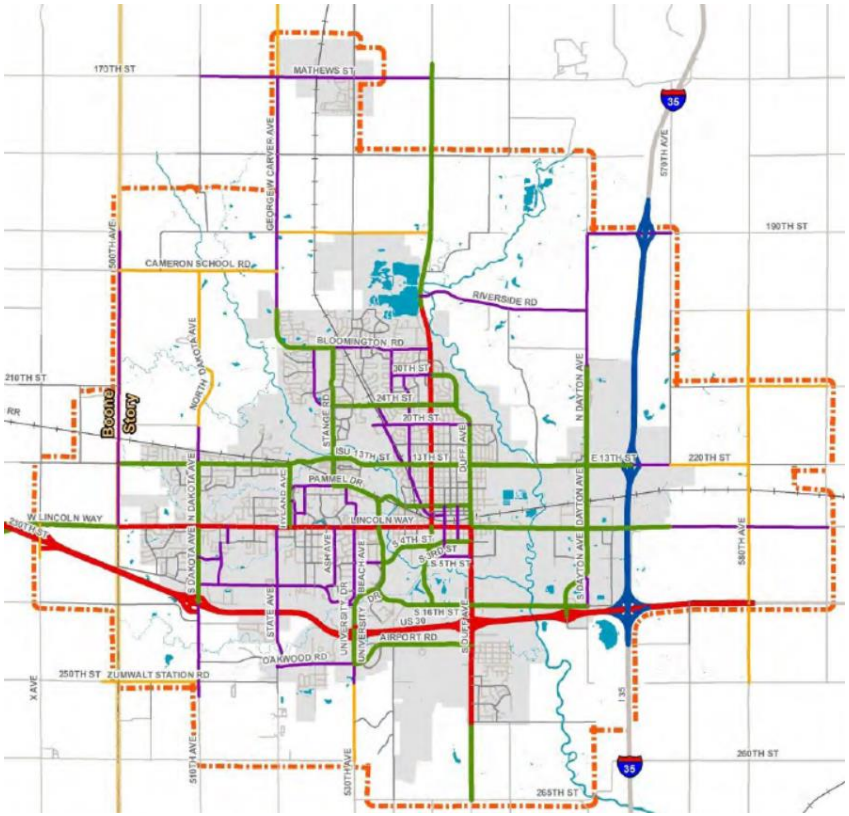
- The primary purpose of the Complete Streets Plan is to make streets safe, comfortable, and useful for all types of travel.
- For an introduction to the concept of Complete Streets, overview of this project, and other information, reference the Introduction Presentation (click here) presented to City Council on September 19, 2017.

Current Street Design Approach

Current Street Classifications

Streets are currently classified based on the amount of traffic they carry:

- Interstates (most traffic; highest speed)
- Other principal arterial
- Minor arterial
- Major collector
- Rural minor collector
- Local (least traffic; lowest speed)



Limitations of the Current Approach

Context Sensitivity

The current approach lacks a consistent method to make street designs respond appropriately to the surrounding context. The two streets below are both “arterial” streets, but present markedly different pedestrian experiences. However, under the current approach, it can be challenging to design streets like the one on the left that support walkable, vibrant places.

Limitations of the Current Approach

Access Versus Throughput

The current approach assumes a constant relationship between the amount of car traffic and the function of the street. However, two streets—like the ones below—can carry the same amount of traffic but serve different functions. The street on the left emphasizes access and lower speeds, while the street on the right emphasizes throughput (the quick and efficient movement of people) at higher speeds.

Limitations of the Current Approach

Preparing for the Future

As Ames continues to grow, it is important that streets are designed to be compatible with new development types, such as walkable mixed use.

New Street Design Approach

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New Street Design Aproach

The new approach to street design is based on the context of the surrounding area (represented as **place types**) and the intended **transportation function** of the street.

Where place types and transportation functions intersect, **street types** are provided to describe the ideal design of the street.

Street types represent the most common combinations of place types and transportation functions. They serve as starting points for street design

Transportation Function

Place Types	Emphasizes Access	Balances Access and Throughput	Emphasizes Throughput
Activity Center	Shared Street, Mixed Use Street	Mixed Use Avenue	n/a
Urban Mix	Shared Street, Mixed Use Street, Neighborhood Street	Mixed Use Avenue	n/a
Residential	Shared Street, Neighborhood Street	Avenue	Thoroughfare, Boulevard
Large-Scale Commercial	Industrial Street	Avenue	Thoroughfare, Boulevard
Industrial	Industrial Street	Avenue	Boulevard

Street Types

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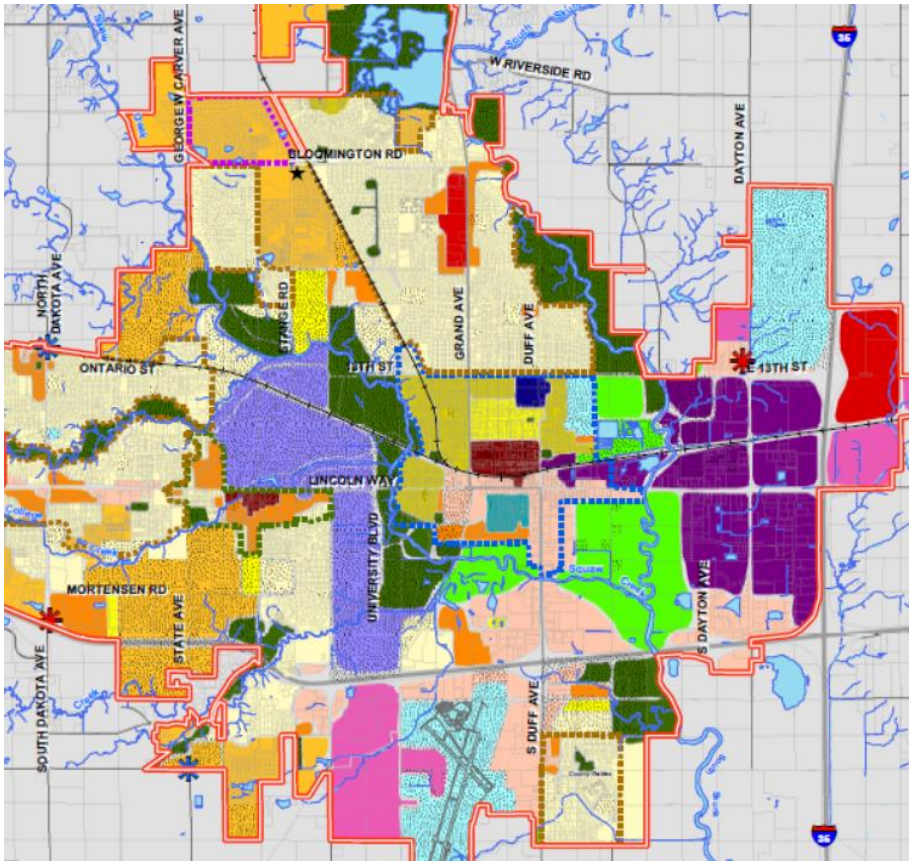
Place Types

Five “place types” generally describe all of the land uses in Ames:

- Activity Center
- Urban Mix
- Residential
- Large-Scale Commercial
- Industrial

These place types relate to, but do not replace, the City’s zoning classification system.



Transportation Function

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Transportation function exists on a spectrum between:

Access to destinations and individual properties. Typically lower speed with higher levels of foot traffic.

Throughput, which means the efficient movement of people. Typically higher speeds with fewer people accessing destinations along the street.

Transportation function is determined by answering several questions:

- Are there many destinations along the street?
- Is there much foot or bike traffic (currently or potentially)?
- Is the street an important link for cross-town travel?

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Place Types

Common development patterns, land uses, and character of the five place types are illustrated on the following pages, with descriptive summary tables at the end of this section.

Activity Center

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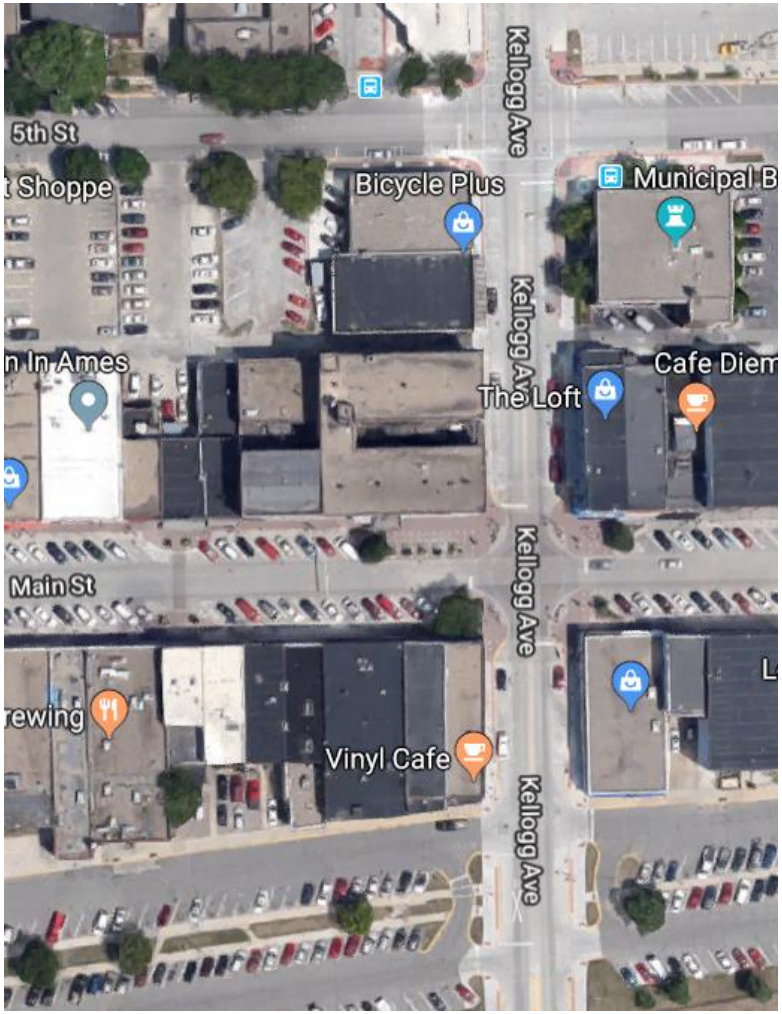

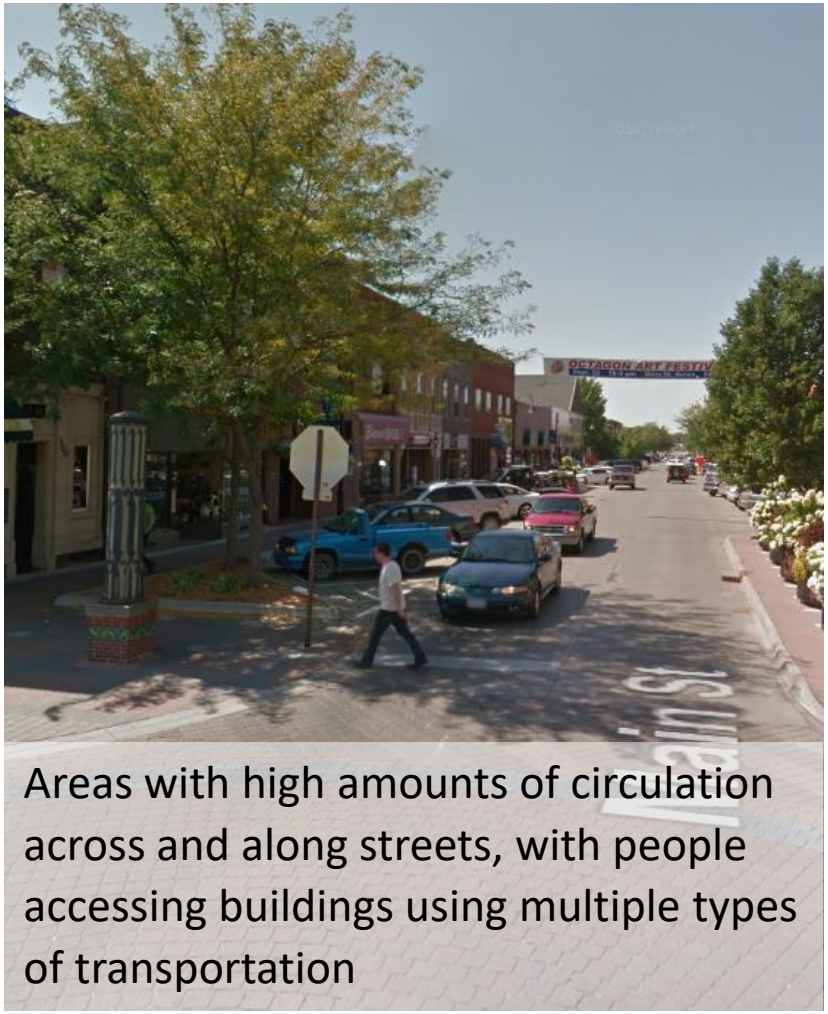

Areas with high amounts of circulation across and along streets, with people accessing buildings using multiple types of transportation

Urban Mix

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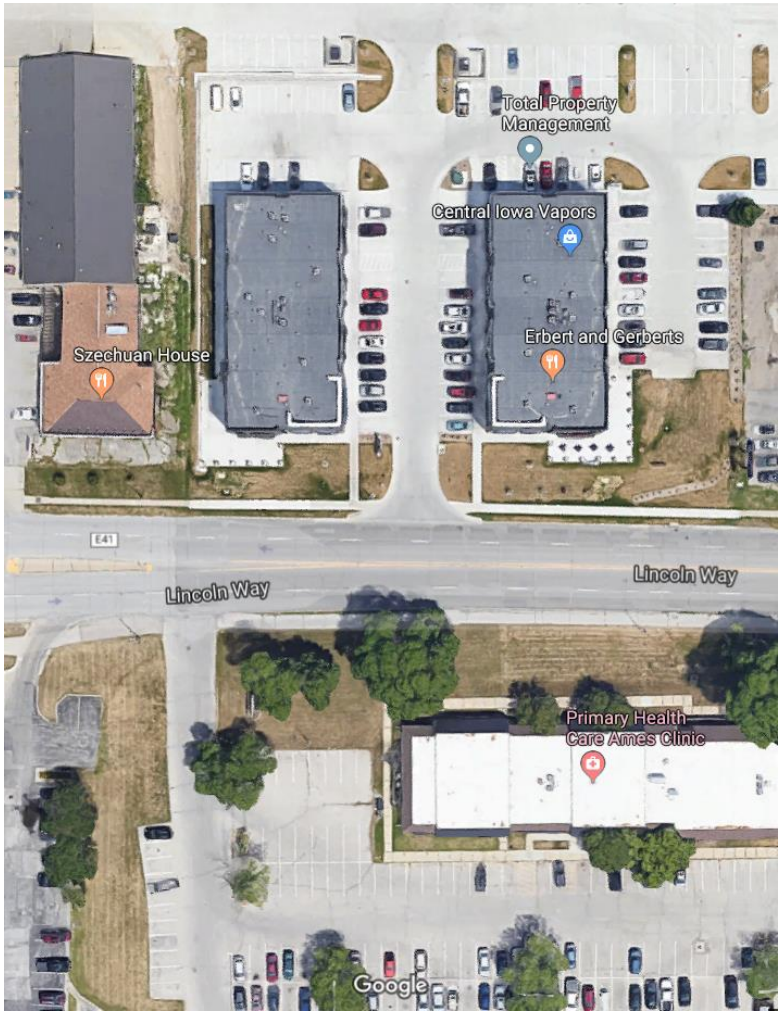

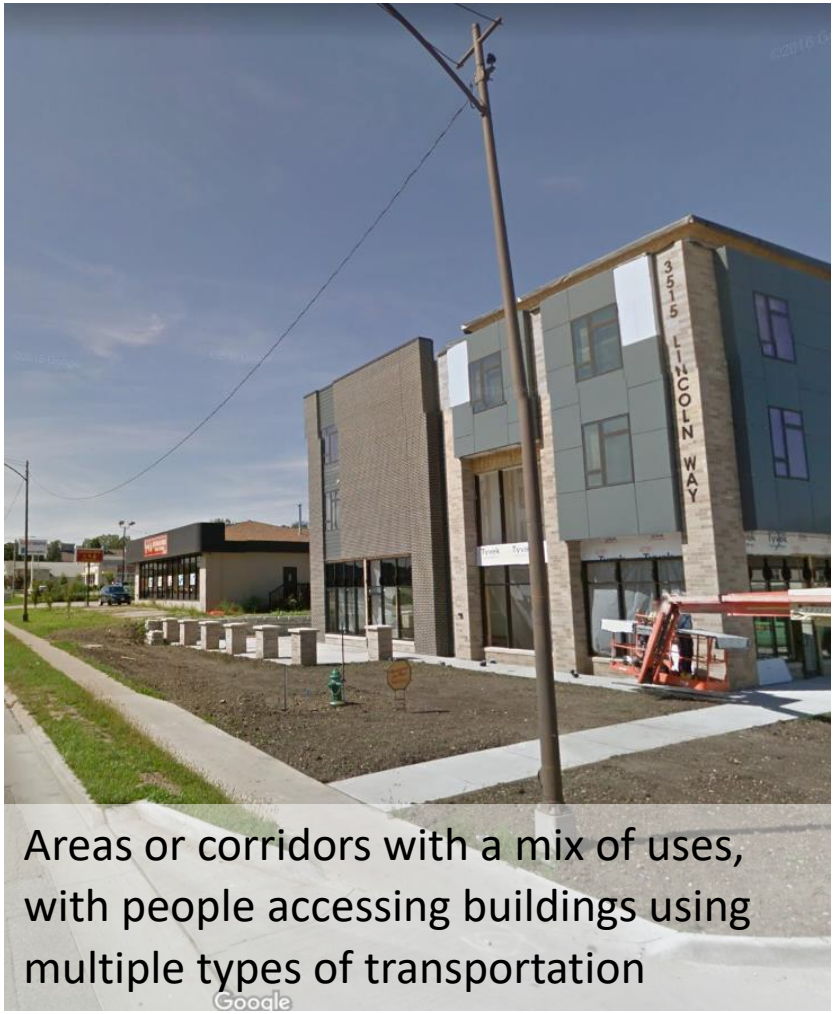

Areas or corridors with a mix of uses, with people accessing buildings using multiple types of transportation

Residential

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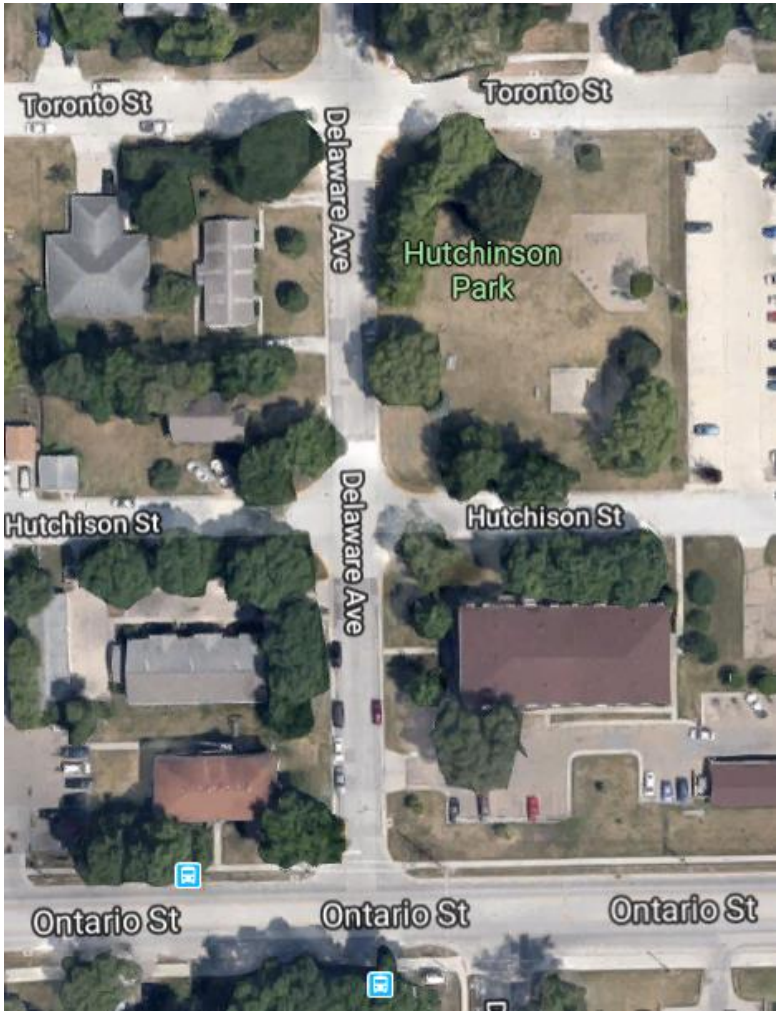

Areas with single and multi-family homes, oftentimes with adjacent schools and parks

Large Scale Commercial

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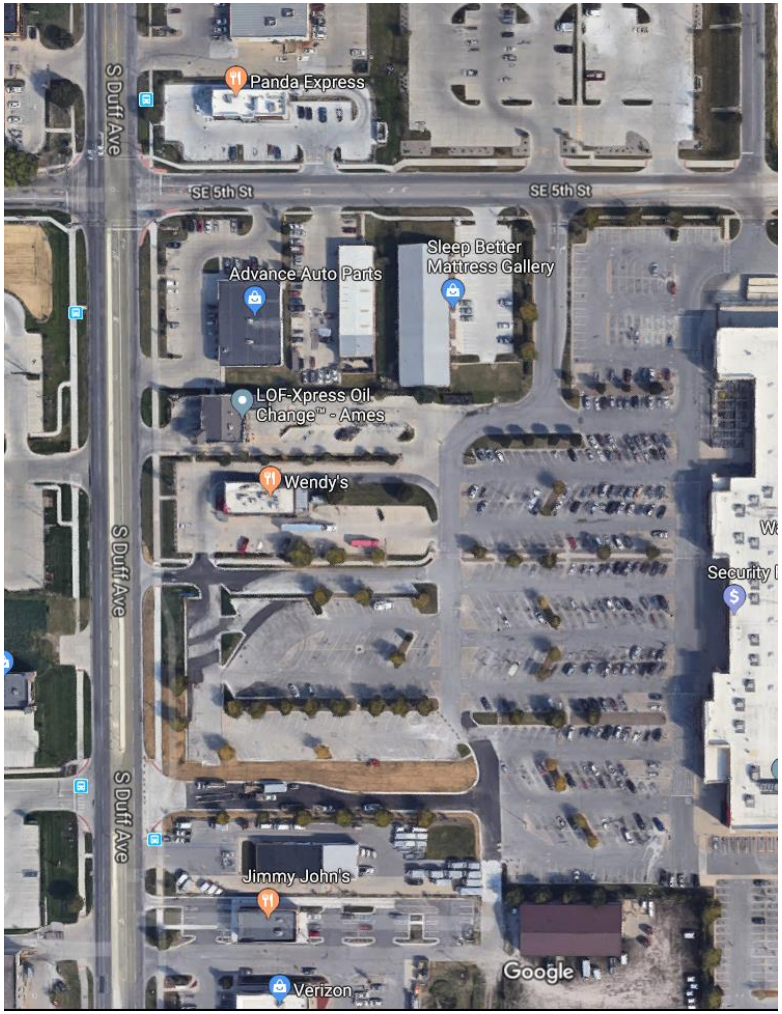

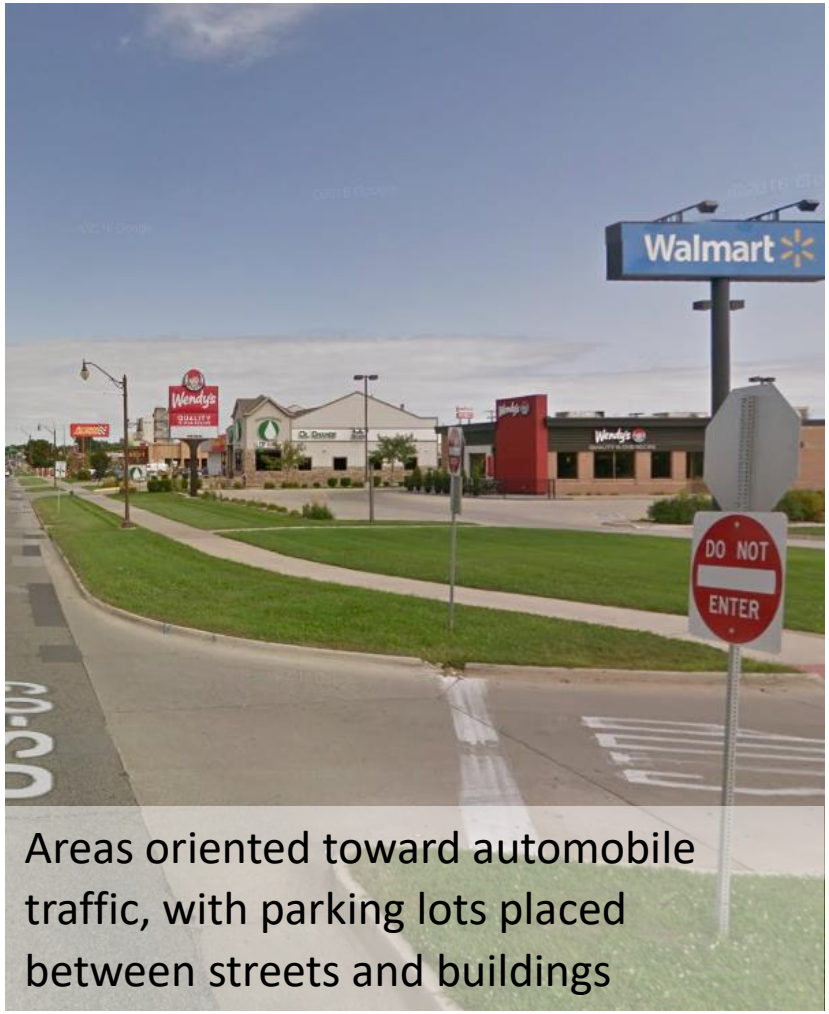

Areas oriented toward automobile traffic, with parking lots placed between streets and buildings

Industrial

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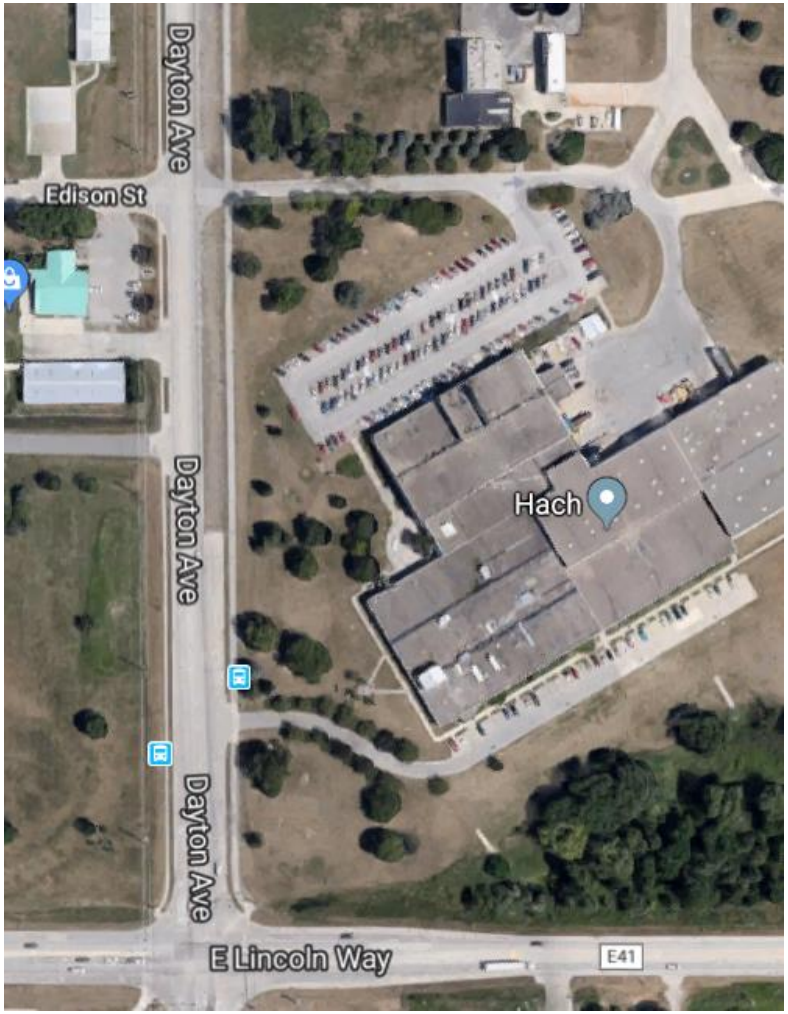

Areas with large, sprawling buildings used for manufacturing and employment

Place Type Descriptions

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	Place Type	Description	Examples
A	Activity Center	An area with high amounts of circulation across and along streets, with people accessing buildings using multiple types of transportation	Downtown, Campustown, Somerset Village
U	Urban Mix	Areas or corridors with a mix of uses, with people accessing buildings using multiple types of transportation	Lincoln Way Corridor, Hospital/Medical District, ISU Research Park
R	Residential	Areas with single and multi-family homes, oftentimes with adjacent schools and parks	Numerous neighborhoods throughout Ames
C	Large Scale Commercial	Areas oriented toward automobile traffic, with parking lots placed between streets and buildings	North Grand Mall, South Duff Corridor
I	Industrial	Areas with large, sprawling buildings used for manufacturing and employment	East Side Employment District / Dayton Avenue Corridor

Place Type Details

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	Place Type	Development Density	Typical Land Uses	Building Distance from Street	Amount of Walking, Bicycling, and Transit Trips Generated
A	Activity Center	Moderate to High	Housing, Retail, Education, Parking, Office	Close; Setbacks between buildings	High
U	Urban Mix	Moderate	Housing, Retail, Education, Parking, Office	Close to Moderate; Buildings attached or detached and 1-3 stories	Moderate to High
R	Residential	Low to Moderate	Housing, Education, Parks	Close to Moderate; Setbacks between buildings	Moderate
C	Large Scale Commercial	Low to Moderate	Retail, Parking	Moderate to Far; Setbacks between buildings	Low to Moderate
I	Industrial	Low	Industrial, Retail, Office	Far; Setbacks between buildings	Low

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Street Types

The street types are illustrated and described on the following pages, with a descriptive summary table at the end of this section.

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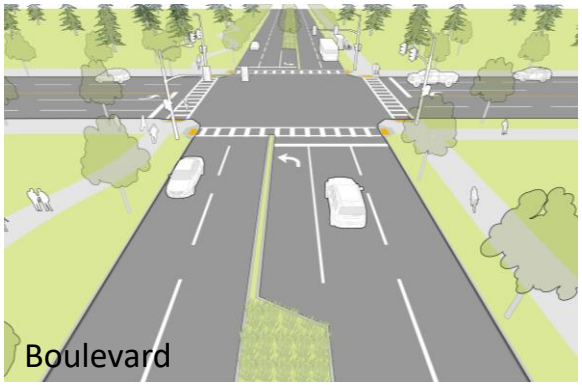
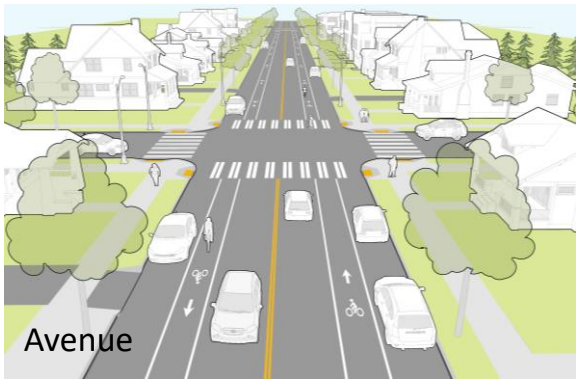
Street Types

Street types serve as starting points for street design. **Street type is determined by place type and transportation function**. Each street type is flexible, and provides guidance for the overall design of a street.

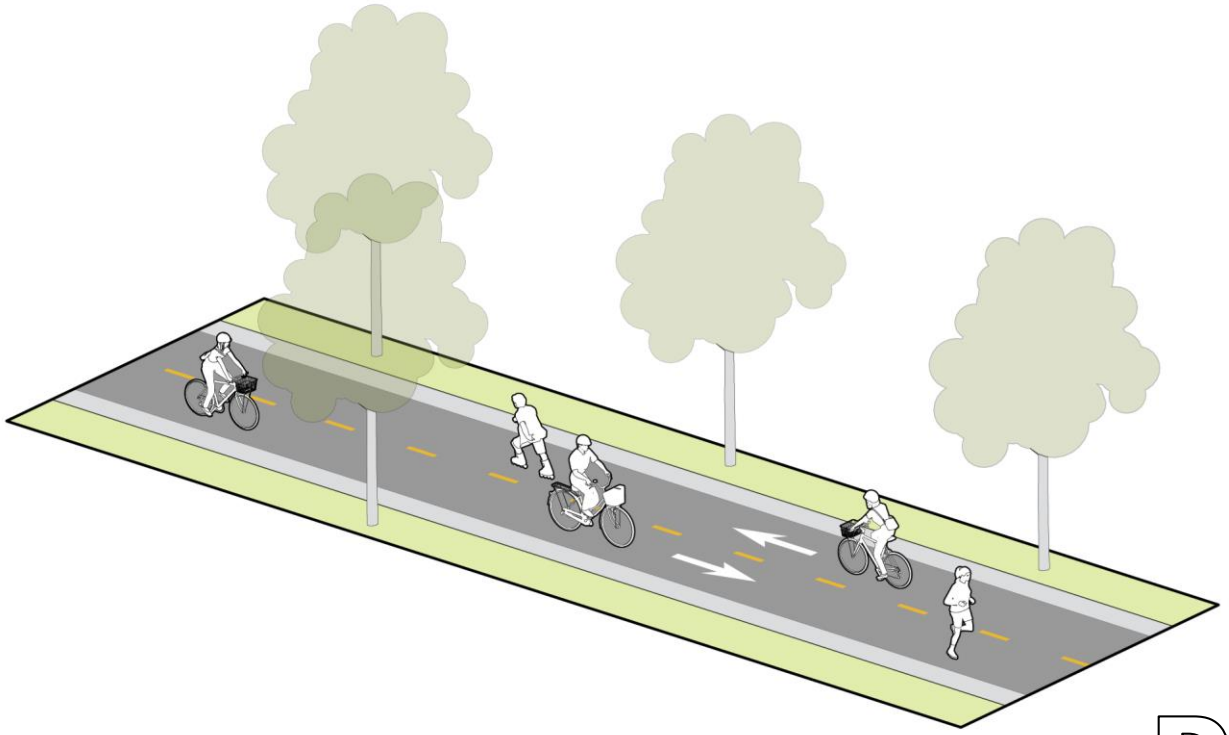

Boulevard


Avenue


Mixed Use Street


Neighborhood Street

Greenway



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Description	Transportation Function	Relevant Place Types
Although not actually a type of street, shared use paths in independent alignments are important parts of the multimodal network.	Emphasizes nonmotorized travel; Pedestrian and bicycle only	All

Shared Street

Description	Transportation Function	Relevant Place Types
A street or alley with no curbs or separate areas for various types of transportation.	Emphasizes nonmotorized access; Pedestrians have priority	Activity Center, Urban Mix, Residential

Shared Street – Many Variations

Many variations of shared streets are possible, depending on context. Here are examples from around the world.

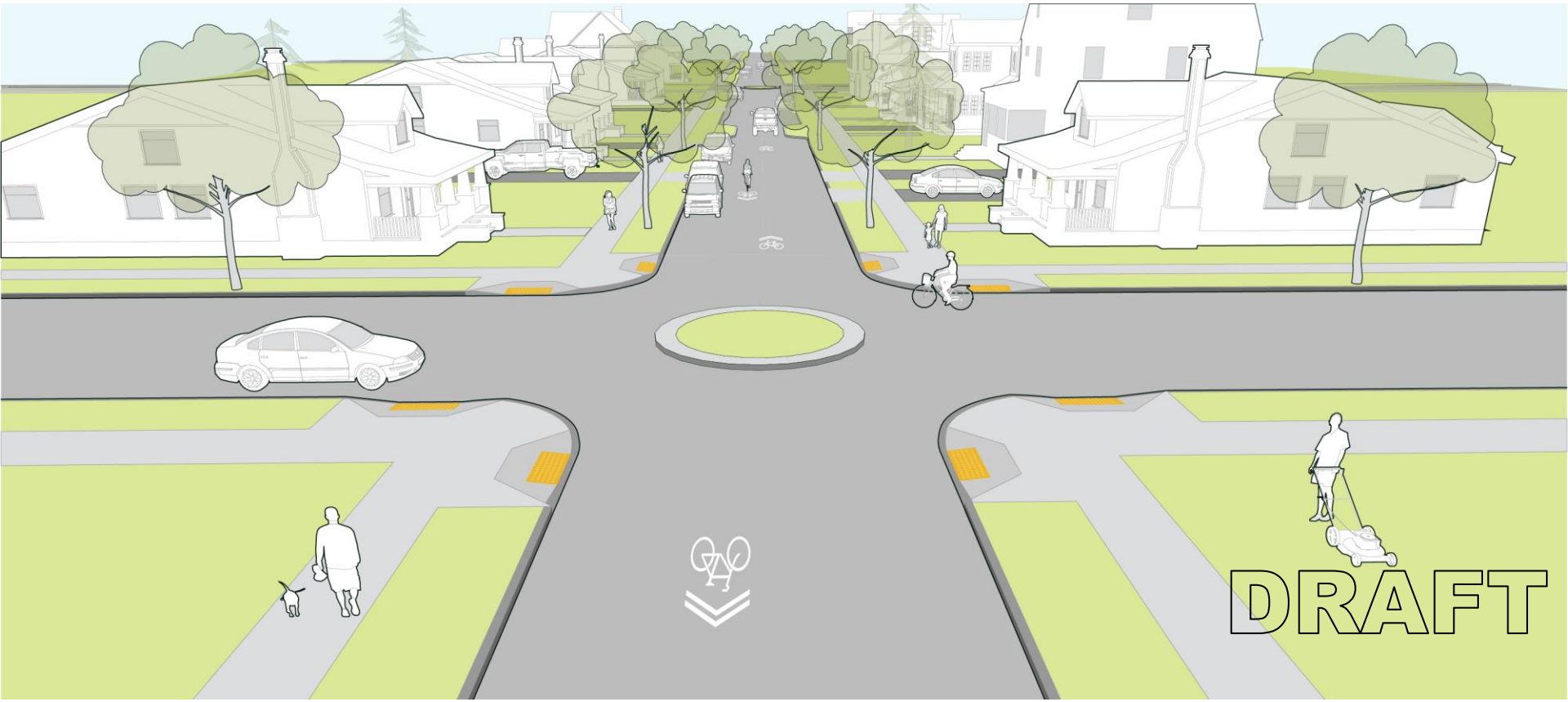
Mixed Use Street

Description	Transportation Function	Place Types
A street with high amounts of a diverse mix of retail, housing, office and/or education, with people using several types of transportation to circulate.	Emphasizes access	Activity Center, Urban Mix

Neighborhood Street

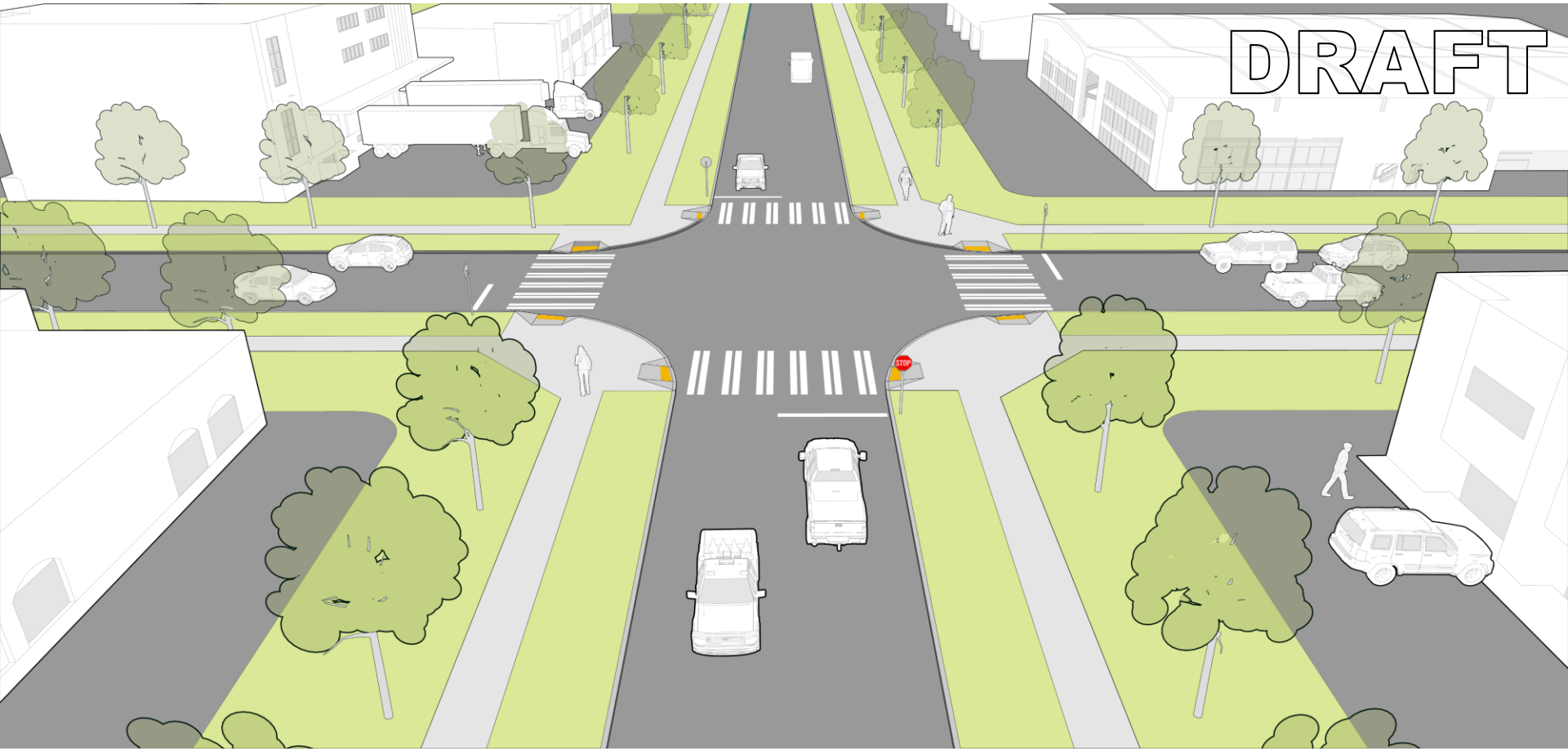
Description	Transportation Function	Place Types
A low traffic street with housing and separated walkways, sometimes with on-street parking.	Emphasizes access	Urban Mix, Residential

Neighborhood Street (Bicycle Boulevard Variant)



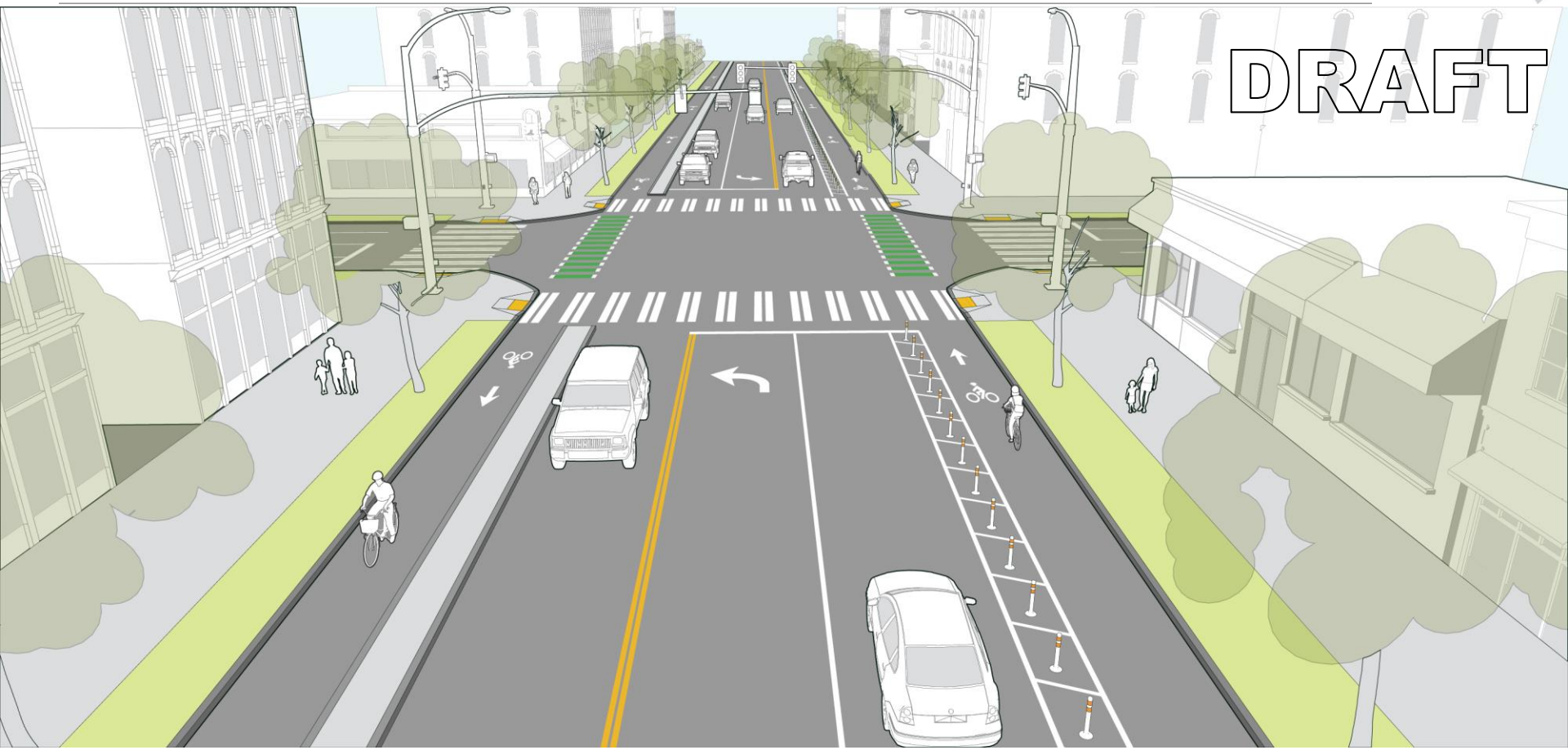
Description	Transportation Function	Place Types
A variation of Neighborhood Street that optimizes the street for bicycle traffic through traffic calming and diversion; also includes pedestrian enhancements	Emphasizes access and nonmotorized throughput	Urban Mix, Residential

Industrial Street



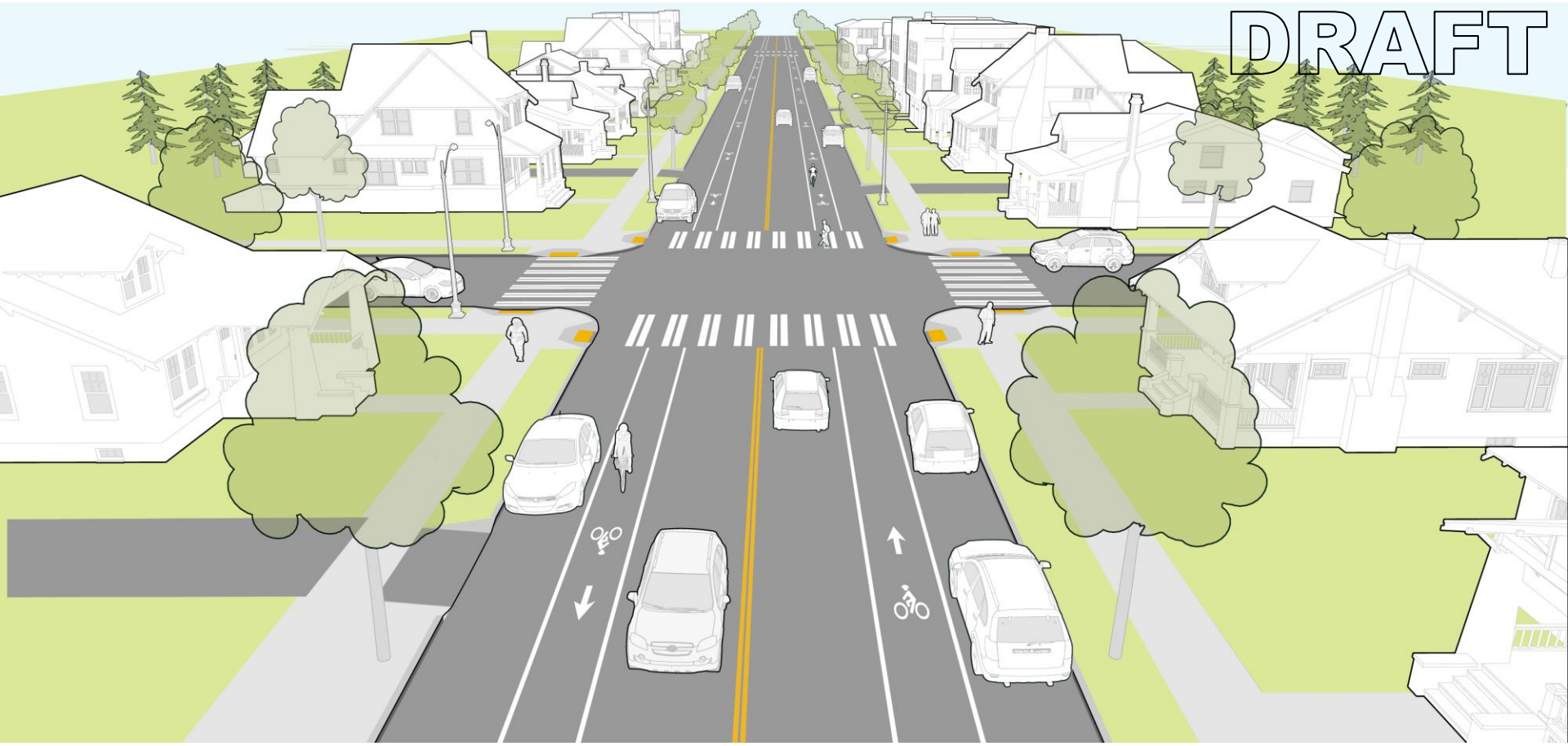
Description	Transportation Function	Place Types
A low-traffic street, often with a high percentage of truck traffic, accessing centers of manufacturing and large-scale retail.	Emphasizes access and freight movement	Industrial, Large Scale Commercial

Mixed Use Avenue



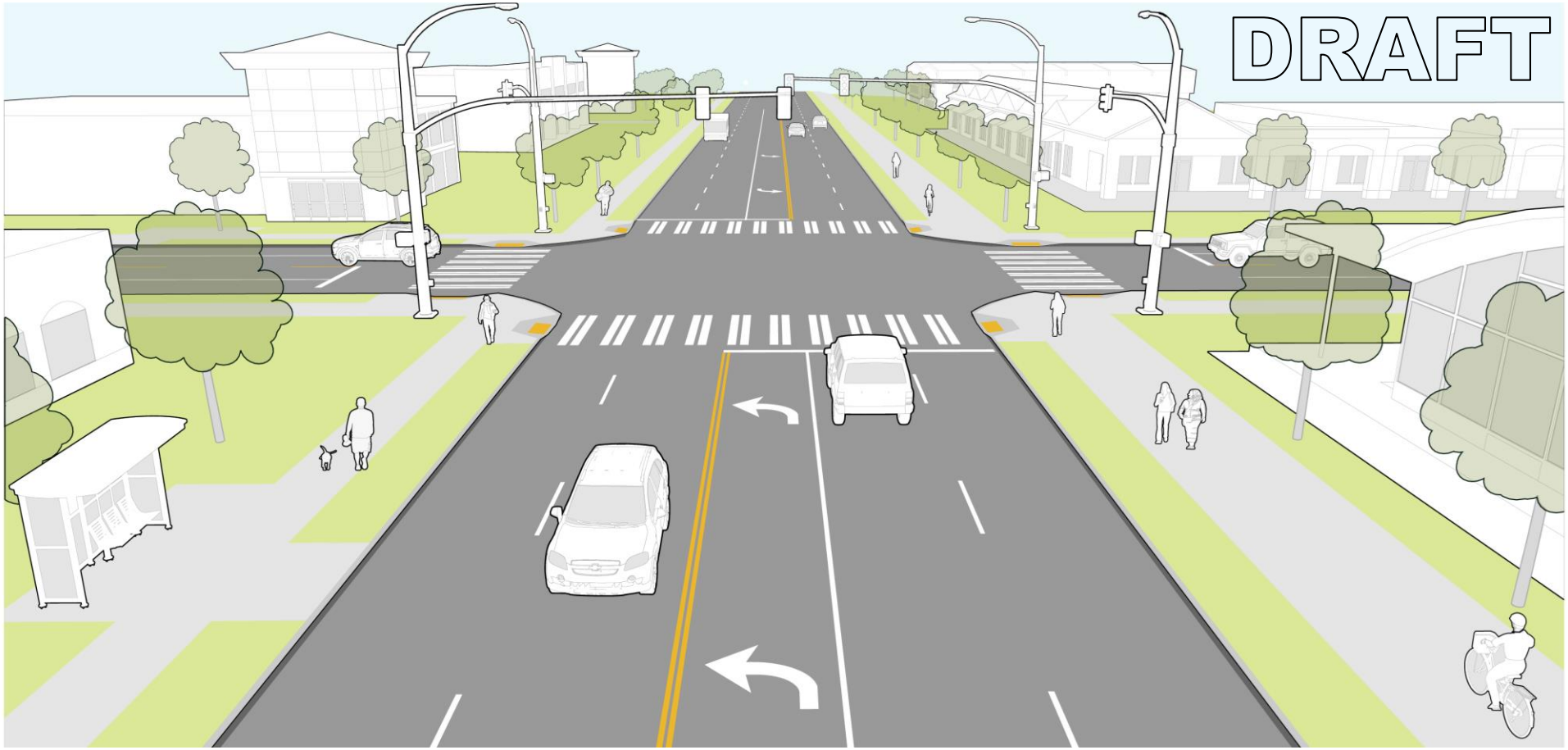
Description	Transportation Function	Place Types
A street with high amounts of a diverse mix of retail, housing, office and/or education, with people using several types of transportation to circulate, but with increased transit and motor vehicle demand	Balances access and throughput	Activity Center, Urban Mix

Avenue



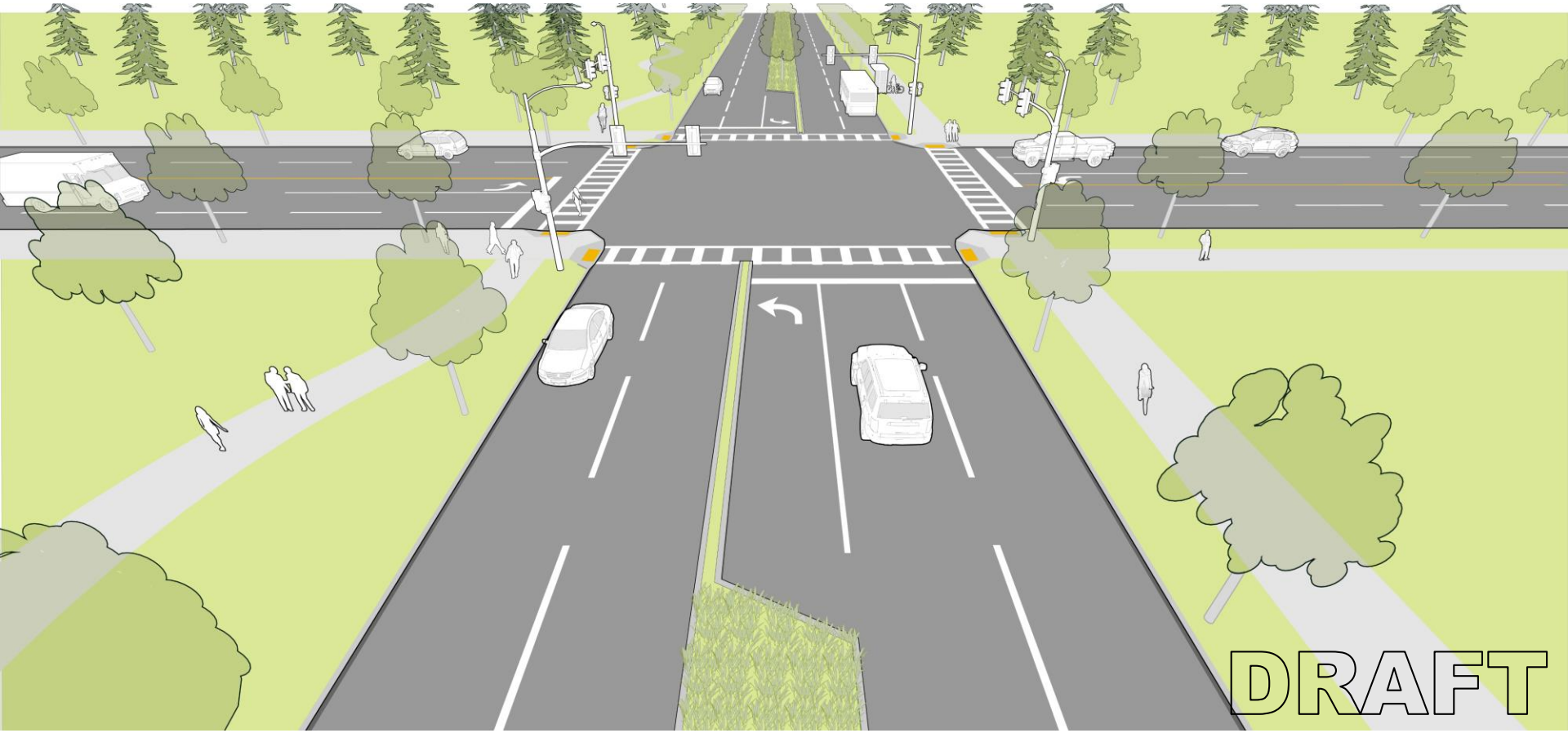
Description	Transportation Function	Place Types
A street with a moderate amount of traffic, wider than a neighborhood residential street. These may include on-street parking and bike lanes.	Balances access and throughput	Residential, Large Scale Commercial

Thoroughfare



Description	Transportation Function	Place Types
A street with moderate to high amounts of traffic, used most often used for longer distance travel and automobile oriented uses.	Emphasizes throughput	Residential, Large Scale Commercial

Boulevard



Description	Transportation Function	Place Types
A street with moderate to high amounts of traffic, with a landscaped median used to separate lanes of traffic and provide refuge for crossing pedestrian and bicycle traffic.	Emphasizes throughput	Residential, Large Scale Commercial, Industrial

Street Types Overview

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	Street Type	Description	Transportation Function	Relevant Place Types
	Greenway	Although not actually a type of street, shared use paths in independent alignments are important parts of the multimodal network.	Emphasizes nonmotorized throughput; Pedestrian and bicycle only	All
Streets emphasize access	Shared Street	A street or alley with no curbs or separate areas for various types of transportation.	Emphasizes nonmotorized access; Pedestrians have priority	Activity Center, Urban Mix, Residential
	Mixed Use Street	A street with high amounts of a diverse mix of retail, housing, office and/or education, with people using several types of transportation to circulate.	Emphasizes access	Activity Center, Urban Mix
	Neighborhood Street (including Bicycle Boulevard variant)	A low traffic street with housing and separated walkways, sometimes with on-street parking. A variation called "Bicycle Boulevard" is available, which optimizes the street for bicycle traffic through traffic calming and diversion; also includes pedestrian enhancements	Emphasizes access Bicycle Boulevard variations increase the emphasis on nonmotorized throughput	Urban Mix, Residential
	Industrial Street	A low-traffic street, often with a high percentage of truck traffic, accessing centers of manufacturing and large-scale retail.	Emphasizes access and freight movement	Industrial, Large Scale Commercial
Avenues balance access and throughput	Mixed Use Avenue	A street with high amounts of a diverse mix of retail, housing, office and/or education, with people using several types of transportation to circulate, but with increased transit and motor vehicle demand	Balances access and throughput	Activity Center, Urban Mix
	Avenue	A street with a moderate amount of traffic, wider than a neighborhood residential street. These may include on-street parking and bike lanes.	Balances access and throughput	Residential, Large Scale Commercial
Thoroughfares and Boulevards emphasize throughput	Thoroughfare	A street with moderate to high amounts of traffic, used most often used for longer distance travel and automobile oriented uses.	Emphasizes throughput	Residential, Large Scale Commercial
	Boulevard	A street with moderate to high amounts of traffic, with a landscaped median used to separate lanes of traffic and provide refuge for crossing pedestrian and bicycle traffic.	Emphasizes throughput	Residential, Large Scale Commercial, Industrial

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Performance Measures

The primary purpose of the Complete Streets Plan is to make streets safe, comfortable, and useful for all types of travel. Performance measures, shown on the following page, provide a process to judge the long-term success of Complete Streets.

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Performance Measures

Questions Being Addressed	Measures
Are people walking, biking, taking transit, and carpooling more than they used to? Are people driving less?	Mode shift
	Mode shift for trips under 1 miles, and between 1 and 3 miles
	Vehicle miles traveled (VMT) per capita
Are students walking and biking to school more than they used to?	Number of K-12 students who walk or bike to school
Are Complete Streets increasing safety?	Citywide crash reduction (total crash reduction, reduction by mode, and reduction by crash severity)
	85th percentile speed compared to target speed (aggregate of all streets/projects; measures whether people are speeding)
Have Complete Streets designs created delays for driving or transit?	Travel time along key corridors
Are Complete Streets benefiting everyone?	Crash reduction, mode shift, and person miles traveled for Environmental Justice* (EJ) populations versus non-EJ populations.
	Household and employment proximity to bicycle and pedestrian facilities
	EJ population proximity to bicycle and pedestrian facilities
Are Complete Streets effectively increasing opportunities for biking and walking?	Miles of on-street bicycle facilities, sidepaths, and sidewalks
Are Complete Streets supporting economic activity?	Commercial vacancies along Complete Streets
Is investment in Complete Streets supporting the City's asset management objectives?	Pavement Condition Index (PCI)