# CNU Urban Thoroughfare Effort and Moving Towards the Network

From

Thoroughfare & Corridor

To

Network & Communities

# From Thoroughfare & Corridor to Network & Communities

❶ Previous work on Urban Thoroughfares

❷ Examples of other work on Thoroughfares, Networks, and Place

❸ Some thoughts about moving from Thoroughfares to Networks

# A Framework for Context-Based Design of Major Urban Thoroughfares

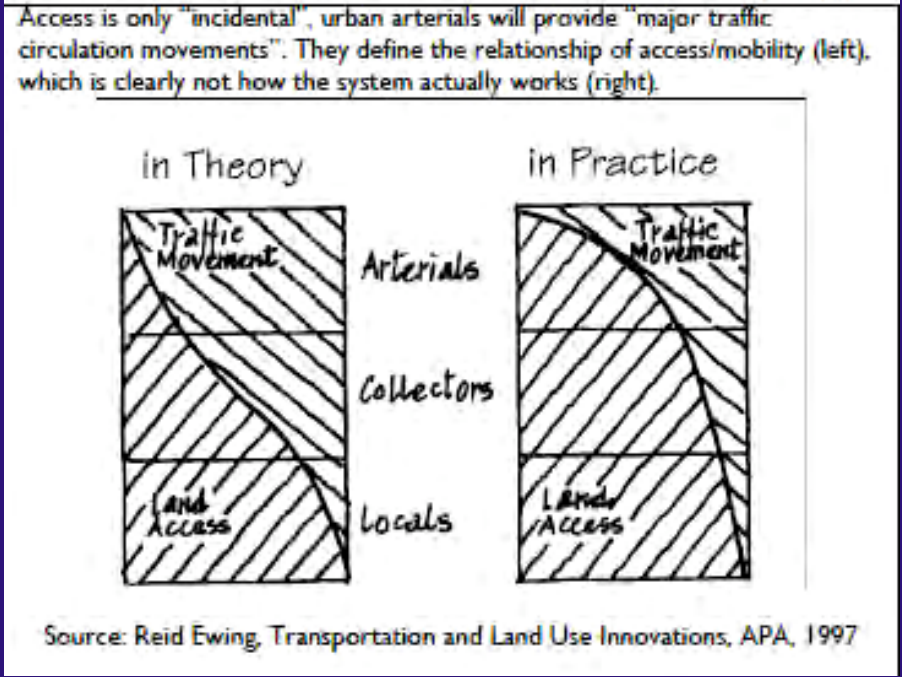
- **CNU Transportation Task Force Urban Thoroughfare Initiative**
  - Corridor focused
  - Broke new ground defining linkage between Thoroughfare & Place

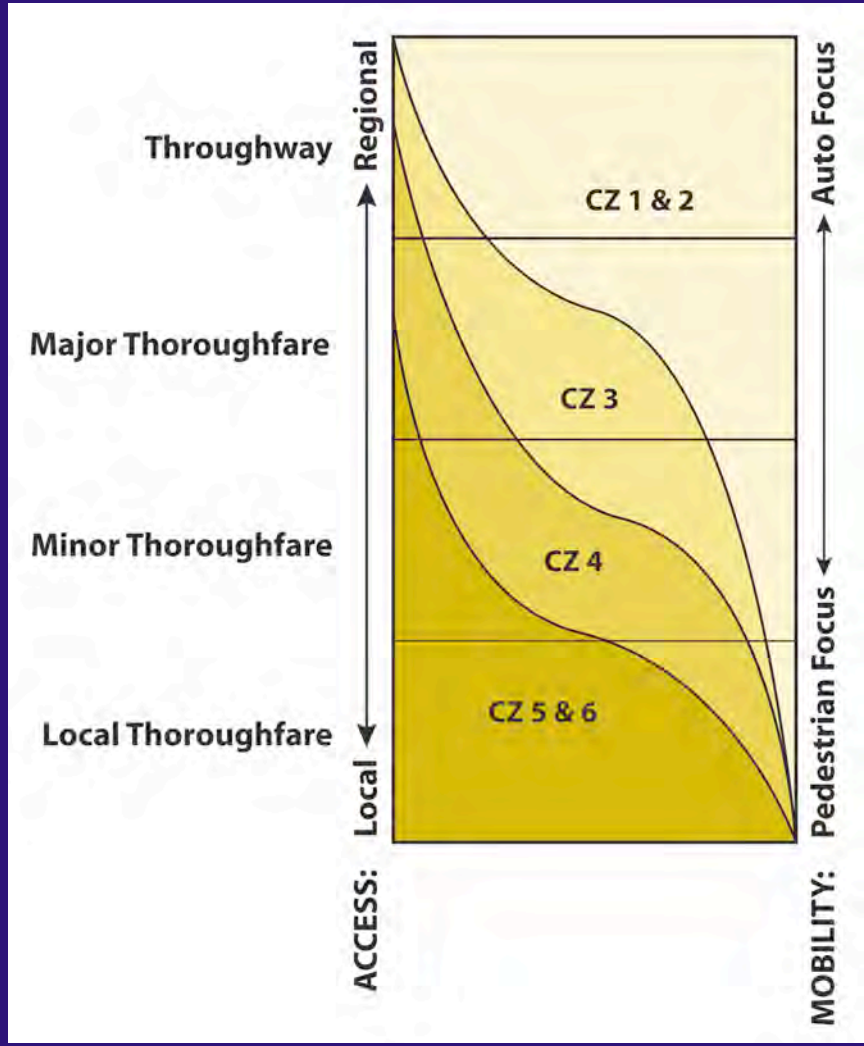
| FUNCTIONAL CLASS | THOROUGHFARE TYPE | CONTEXT ZONE | | | |
|---|---|---|---|---|---|
| | | Natural/Rural (CZ-1) | Suburban (CZ-2) | General Urban (CZ-3) | Urban Center Urban Core (CZ-4) |
| Arterial | FREEWAY | Y | P | P | P |
| Arterial | EXPRESSWAY/PARKWAY | Y | Y | P | P |
| Arterial | RURAL HIGHWAY | Y | X | X | X |
| Arterial | BOULEVARD | X | Y | Y | Y |
| Arterial | MULTIWAY BOULEVARD (Through Lanes) | X | Y | Y | Y |
| Arterial | MULTIWAY BOULEVARD (Access Lanes) | X | Y | Y | Y |
| Collector | AVENUE | X | Y | Y | Y |
| Collector | CONNECTOR | X | Y | Y | Y |
| ?? | STREET | X | Y | Y | Y |
| Local | RURAL ROAD | Y | X | X | X |
| Local | YIELD STREET | X | Y | Y | Y |
| Local | MEWS | X | Y | Y | Y |
| Local | ALLEY | X | Y | Y | Y |
| Local | TRANSIT MALL | X | Y | Y | Y |
| | PEDESTRIAN MALL | X | Y | Y | Y |
| | PATH | Y | Y | Y | Y |

KEY
Y = Permitted
P = Provisional; special treatments required; may be applied at edges of Context Zone
X = Not permitted

# Context Zones –
# *an Organizing System for Place-based Design*

- **Support the creation of a functional classification system linked to the finer grain of urban form**



# Framework for Context-Based Design of Major Urban Thoroughfares

**Table 2 (DRAFT)**
**Urban Thoroughfare Characteristics (to be used with Table 1 - Thoroughfare/Context Zone Relationship)**

| | A | B | | C | D | E | F | G | H | I | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | URBAN THOROUGHFARE TYPE [1] | NUMBER OF THROUGH LANES | | TARGET SPEED (MPH) [2] | INTERSECTION SPACING [3] | TRANSIT SERVICE EMPHASIS | MEDIAN | DRIVEWAY ACCESS | CURB PARKING | PEDESTRIAN FACILITIES | BICYCLE FACILITIES | BUILDING ENTRY ORIENTATION [4] | FREIGHT MOVEMENT [5] | CLOSEST CORRESPONDENCE WITH FUNCTIONAL CLASSIFICATION SYSTEM | RELATED STREET TYPE TERMINOLOGY |
| | | PERMITTED | CONDITIONALLY ACCEPTABLE | | | | | | | | | | | | |
| 1 | FREEWAY | 8+ | | 55-70 | 1 to 2 MILES | EXRESS | REQUIRED | NO | NO | NO | NO | NO | REGIONAL TRUCK ROUTE | PRINCIPAL ARTERIAL | TURNPIKE, THROUGHWAY HIGHWAY, and INTERSTATE |
| 2 | EXPRESSWAY/PARKWAY | 4 to 6 | | 50 | 1/2 to 1 MILE | EXRESS | REQUIRED | NO | NO | SEPARATED PATHWAY | SEPARATED PATHWAY | NO | REGIONAL TRUCK ROUTE | PRINCIPAL ARTERIAL | |
| 3 | BOULEVARD | 6 | | 35-45 | 1/4 to 1/2 MILE | EXPRESS and LOCAL | REQUIRED | LIMITED | PROVISIONAL | SIDEWALK | YES or PARALLEL ROUTE | YES | REGIONAL TRUCK ROUTE | PRINCIPAL and MINOR ARTERIALS | |
| 4 | MULTIWAY BOULEVARD | 6 TOTAL (2 LOCAL ACCESS LANES) | 8 TOTAL (2 LOCAL ACCESS LANES) | 25-35 (20 in ACCESS LANES) | 1/4 MILE (1/8 MILE FOR ACCESS LANE) | EXPRESS and LOCAL | REQUIRED | YES for ACCESS LANE | YES on ACCESS LANE | SIDEWALK | | YES | REGIONAL ROUTE/LOCAL DELIVERIES ONLY on ACCESS LANES | PRINCIPAL and MINOR ARTERIALS and LOCAL | BOULEVARD with LOCAL ACCESS LANES, TRANSIT BOULEVARD |
| 5 | AVENUE | 4 | 6 | 25-35 | 1/8 to 1/4 MILE | LOCAL | OPTIONAL | LIMITED | YES | SIDEWALK | | YES | LOCAL TRUCK ROUTE | PRINCIPAL and MINOR ARTERIALS or COLLECTOR | |
| 6 | CONNECTOR STREET | 2 | | 25 | 300 FEET to 1/8 MILE | LOCAL | OPTIONAL | YES | YES | SIDEWALK | | YES | LOCAL DELIVERIES ONLY | MINOR ARTERIAL or COLLECTOR | |
| 7 | STREET | 2 | | 20 | BLOCK WIDTH | LOCAL | NO | YES | YES | SIDEWALK | SHARED | YES | LOCAL DELIVERIES ONLY | MINOR COLLECTOR or LOCAL | |
| 8 | YIELD STREET | 1 | | 15 | BLOCK WIDTH | NONE | NO | YES | YES | SIDEWALK | SHARED | YES | LOCAL DELIVERIES ONLY | LOCAL | |
| 9 | MEWS | 1 | | 5 | BLOCK WIDTH | NONE | NO | YES | YES | SHARED | SHARED | YES | LOCAL DELIVERIES ONLY | LOCAL | COURT or WOONERF |
| 10 | ALLEY | 1 | | 5 | N.A. | NONE | NO | YES | NO | SHARED | SHARED | YES | LOCAL DELIVERIES ONLY | LOCAL | REAR LANE |
| 11 | TRANSIT MALL | 2 | | 15 | BLOCK WIDTH | EXPRESS and LOCAL | NO | NO | NO | SHARED | SHARED | YES | LOCAL DELIVERIES ONLY | LOCAL | TRANSIT STREET |
| 12 | PEDESTRIAN MALL | 0 | | 5 | BLOCK WIDTH | NONE | NO | NO | NO | SHARED | SHARED | YES | LOCAL DELIVERIES ONLY | NONE | |
| 13 | PATH | — | | N.A. | N.A. | NONE | NO | NO | NO | SHARED | SHARED | YES | NONE | NONE | PASSAGE or MULTI-USE TRAIL |

**Highway and Road thoroughfare designations are not shown in Table 2 because they are rural designations.**
**Shaded cells in Table 2 represent thoroughfare types which are not addressed in the design guidance.**

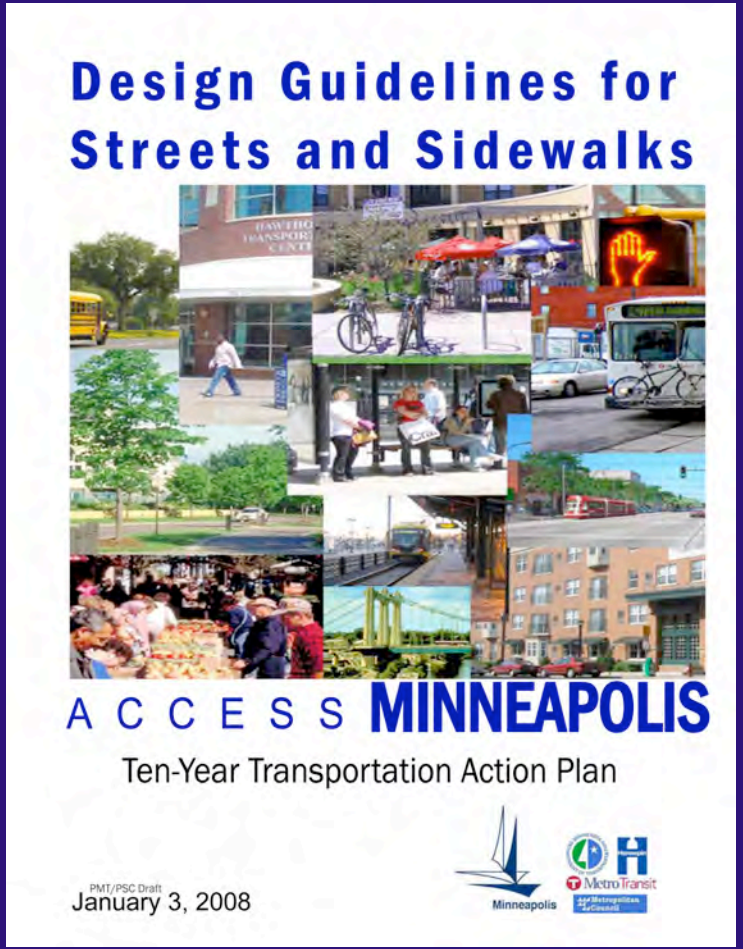
Notes:
[1] All urban thoroughfare types have sidewalks on both sides. Sidewalk width varies as a function of context zone, fronting land use, and other factors.
[2] The guidelines will address the issue of state laws mandating minimum speeds.
[3] Spacing for freeways and expressways/parkways reflect grade-separated interchange or major at-grade intersection spacing. Spacing for boulevard, multiway boulevards, avenues and connectors represent signalized intersection spacing. Spacing for llower order streets, yield streets, and mews/courts/woonerfs reflect driveway spacing.
[4] This characteristic distinguishes thoroughfares that are supportive of a direct connection with building entries from those that are not supportive. A direct connection is an entry directly onto the right-of-way or one that is accessed through an open space (i.e.; plaza, court, front yard, or landscaped setback) rather than through a parking lot or driveway.
[5] Freight movement is divided into three categories: 1) Regional truck route, 2) Local truck route, and 3) Local deliveries only. Cells shows highest order of truck movement allowed.

# Framework for Context-Based Design of Major Urban Thoroughfares

- **Outstanding Issues & Concerns that related to expanding to Network & Communities Effort:**
  - Relationship to Functional Classification
  - Balance or Interaction of access, mobility, and place-making functions of transportation system
  - More robust definition of transit, bicycle, and freight systems
  - Addressing shared streets
  - Addressing utility corridors & green streets infrastructure

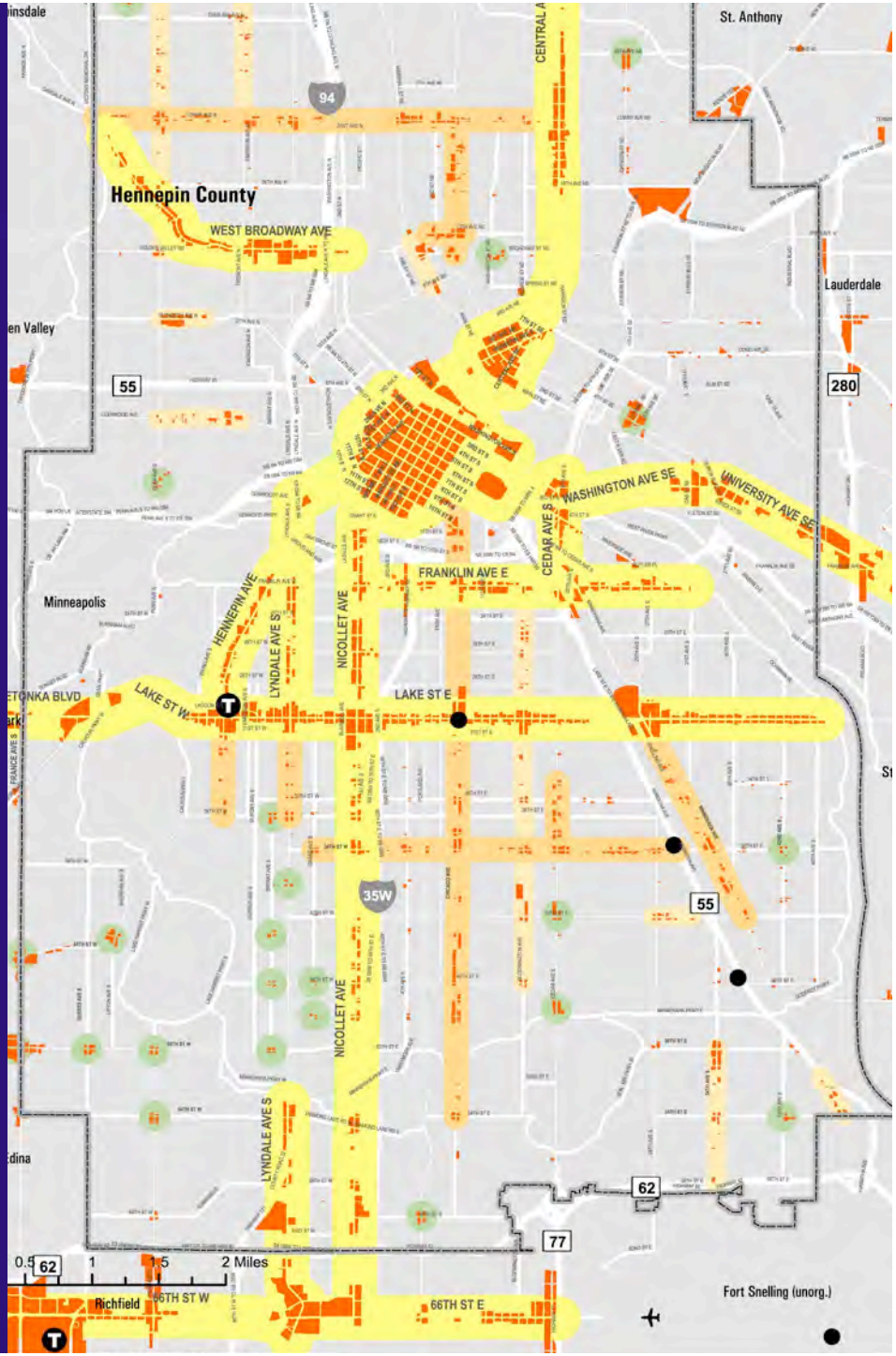
# Other U.S. Examples of Context-Sensitive Street & Network Master Planning

- **ACCESS Minneapolis -** ***Streets and Sidewalks Guidelines***



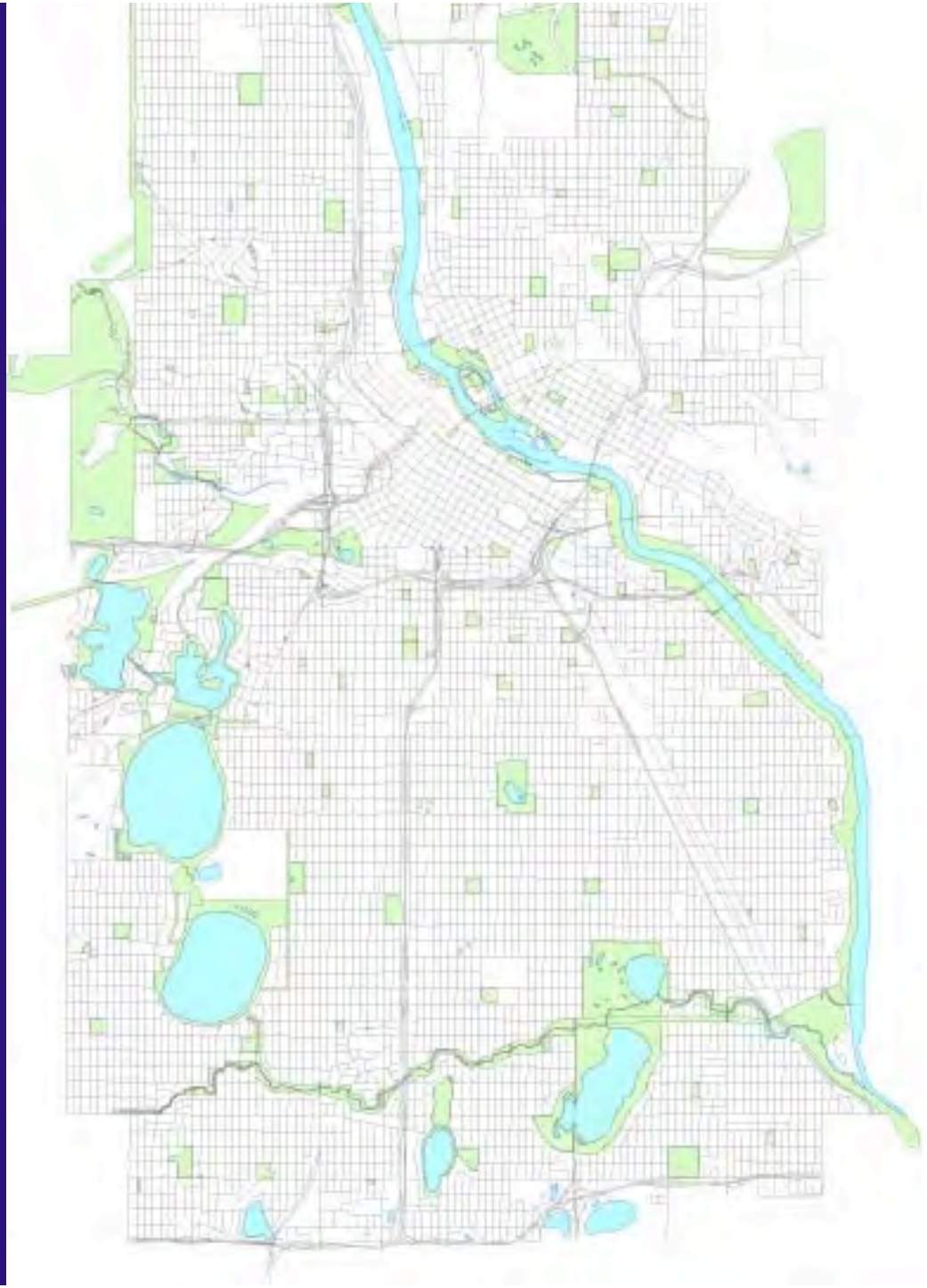
# ACCESS Minneapolis

- **10-Year Transportation Plan**
  - Citywide
  - Downtown
- **Street and Sidewalk Design Guidelines**
- **Streetcar Feasibility**



# Street Network

- **Basic Grid**
  - 300 by 600 feet
  - 300 by 300 feet
    - Downtown
- **Uniform Rights of Way**
  - 60 feet
  - 66 feet
  - 80 feet
  - 100 feet



# Street Network

- **Activity Center Streets**
  - Can be One-Way
  - Can be more than 2 lanes

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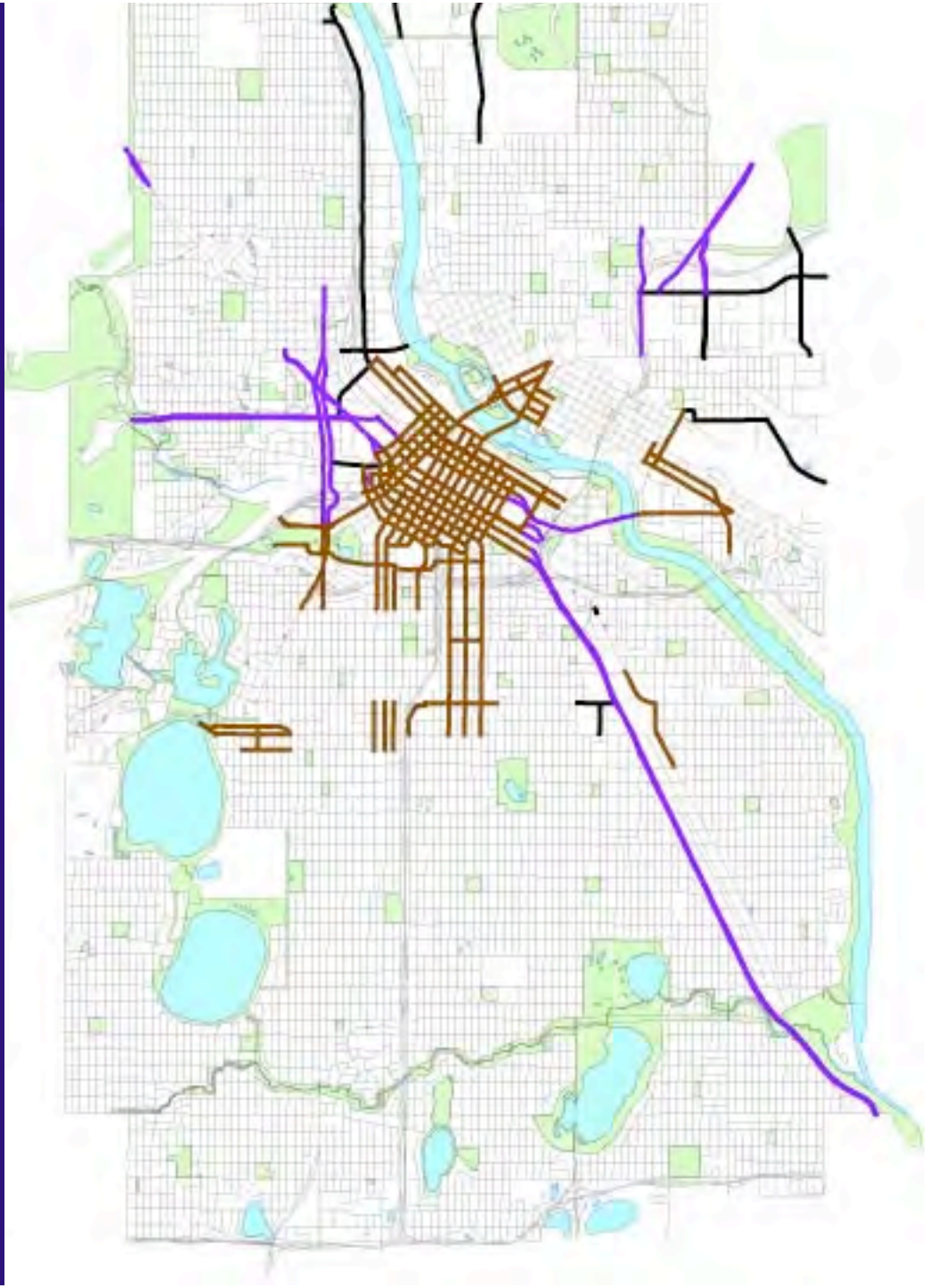
- **Industrial/Employment**
  - Accommodate Trucks



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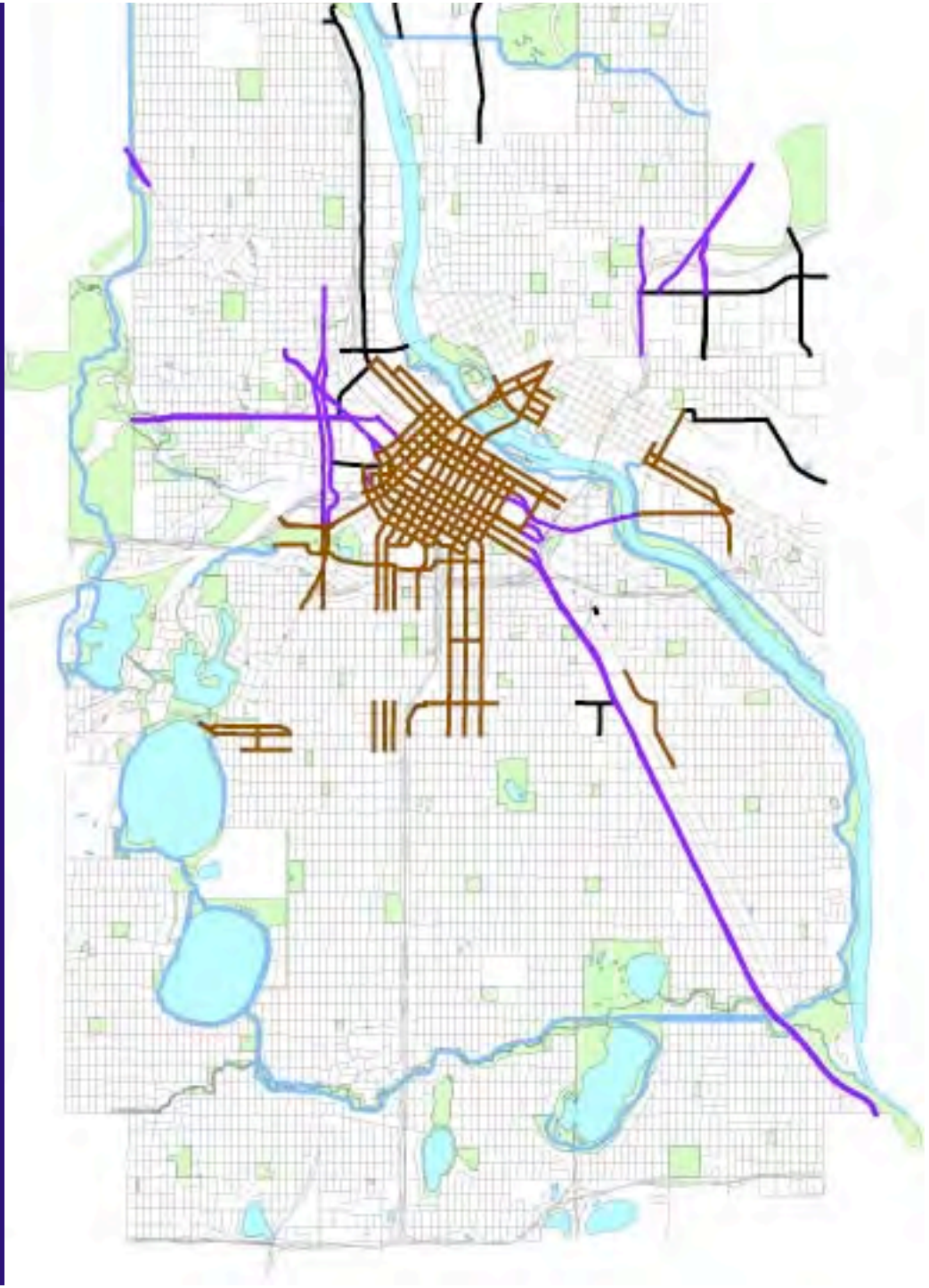
- **Parkway Streets**
  - Low Speed, No Frontage



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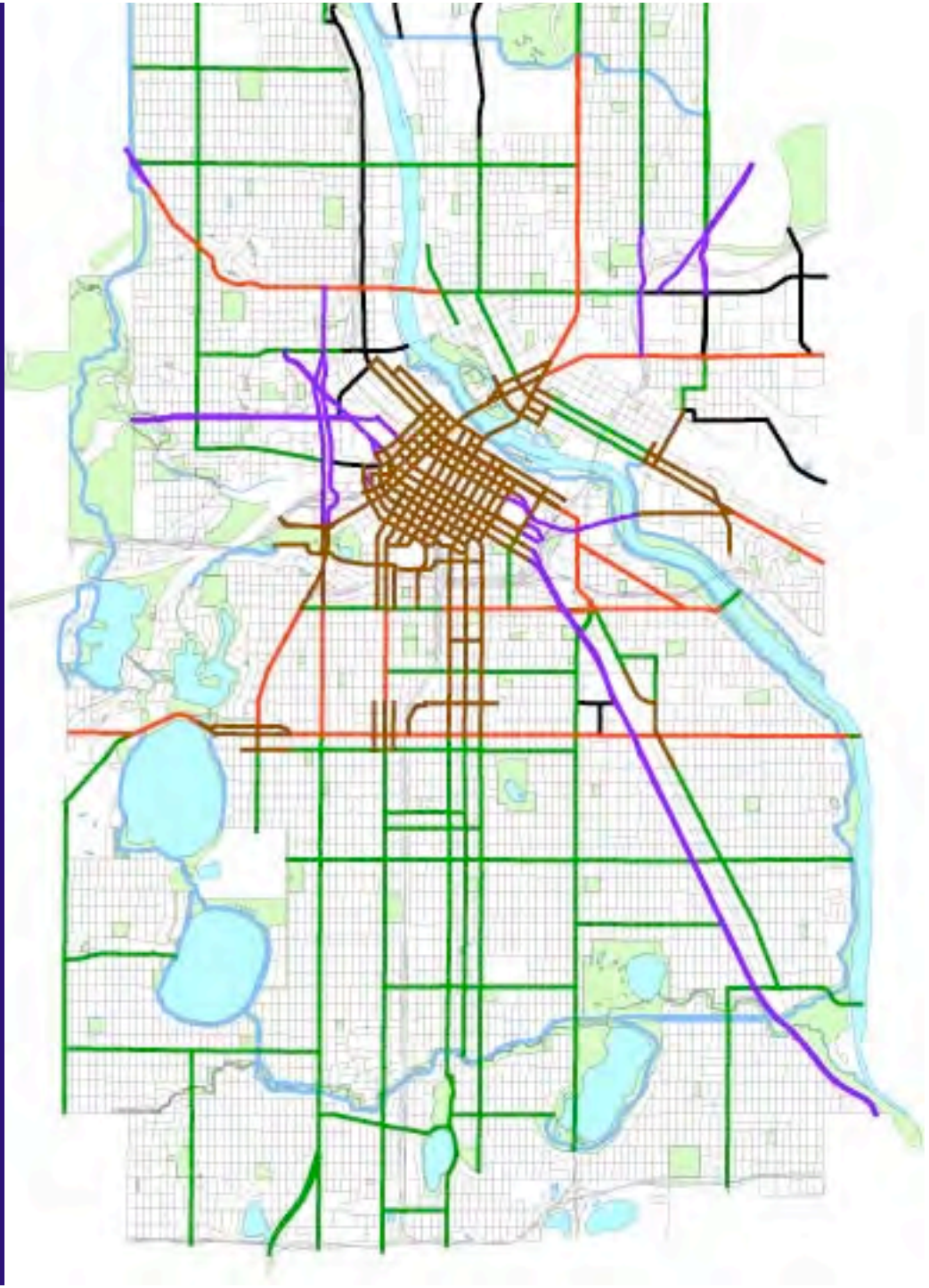
- **Commercial Streets**
  - Avenues
- **Community Connectors**
  - Connect Districts, 3 lane



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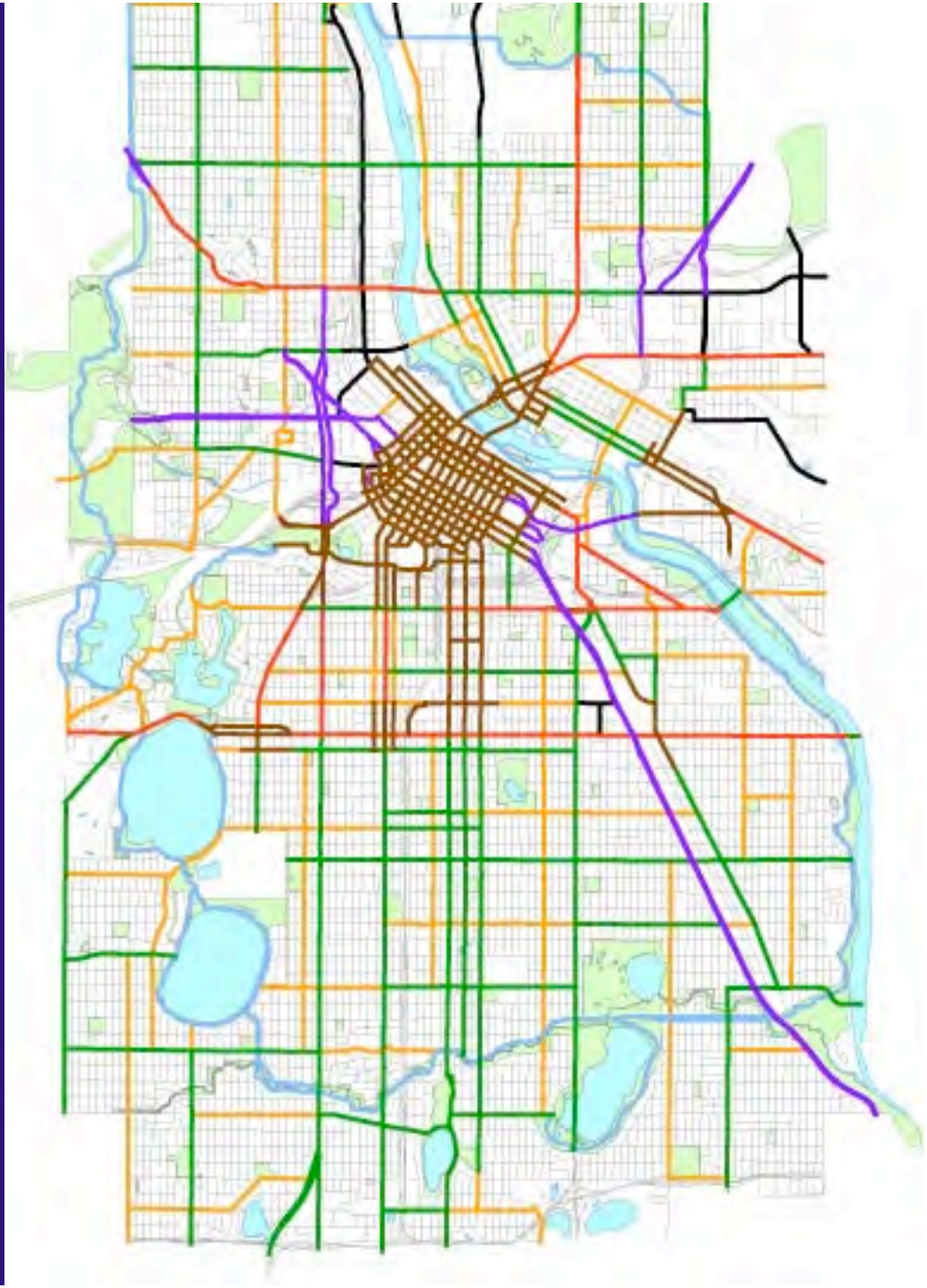
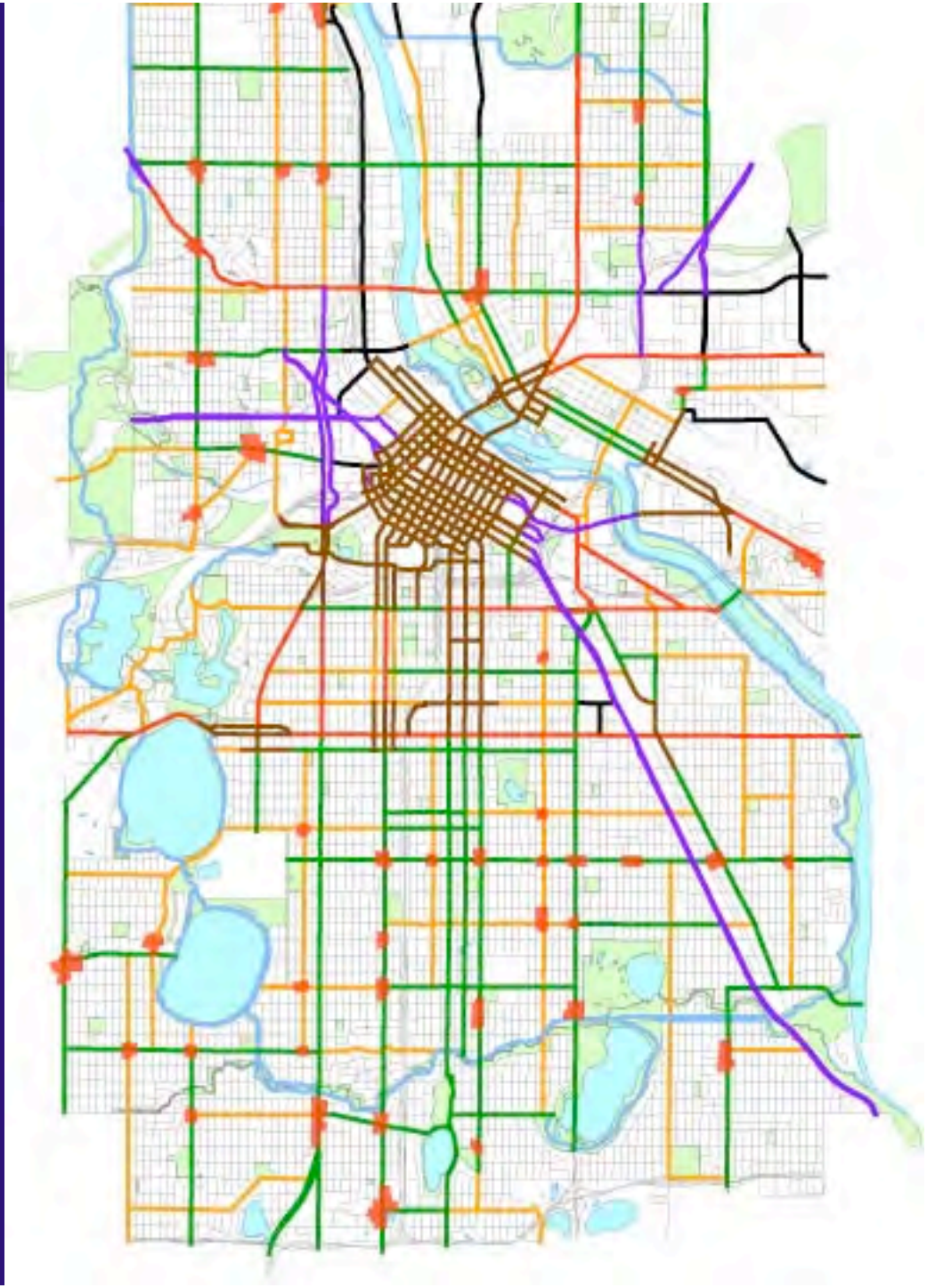
- **Commercial Streets**
  - Avenues
- **Community Connectors**
  - Connect Districts, 3 lane
- **Neighborhood Connectors**
  - Connect two neighborhoods, 2 lane
- **Local Streets**
  - 2 lane



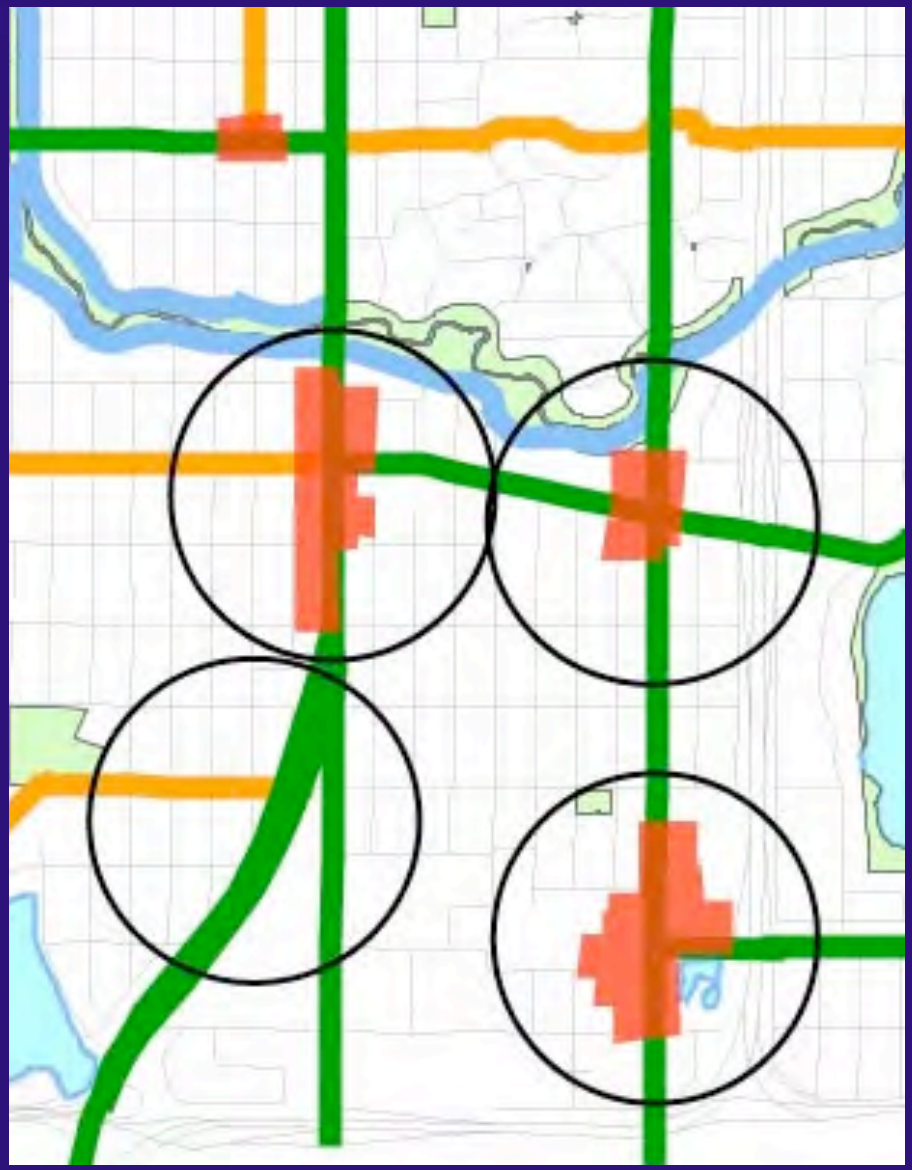
# Street Network

- ½ to 1 mile spacing of Connector Street
- Define corridors that serve neighborhood commercial nodes
- Provide corridors to serve transit network and bicycle network
- Pedestrian network is continuous throughout



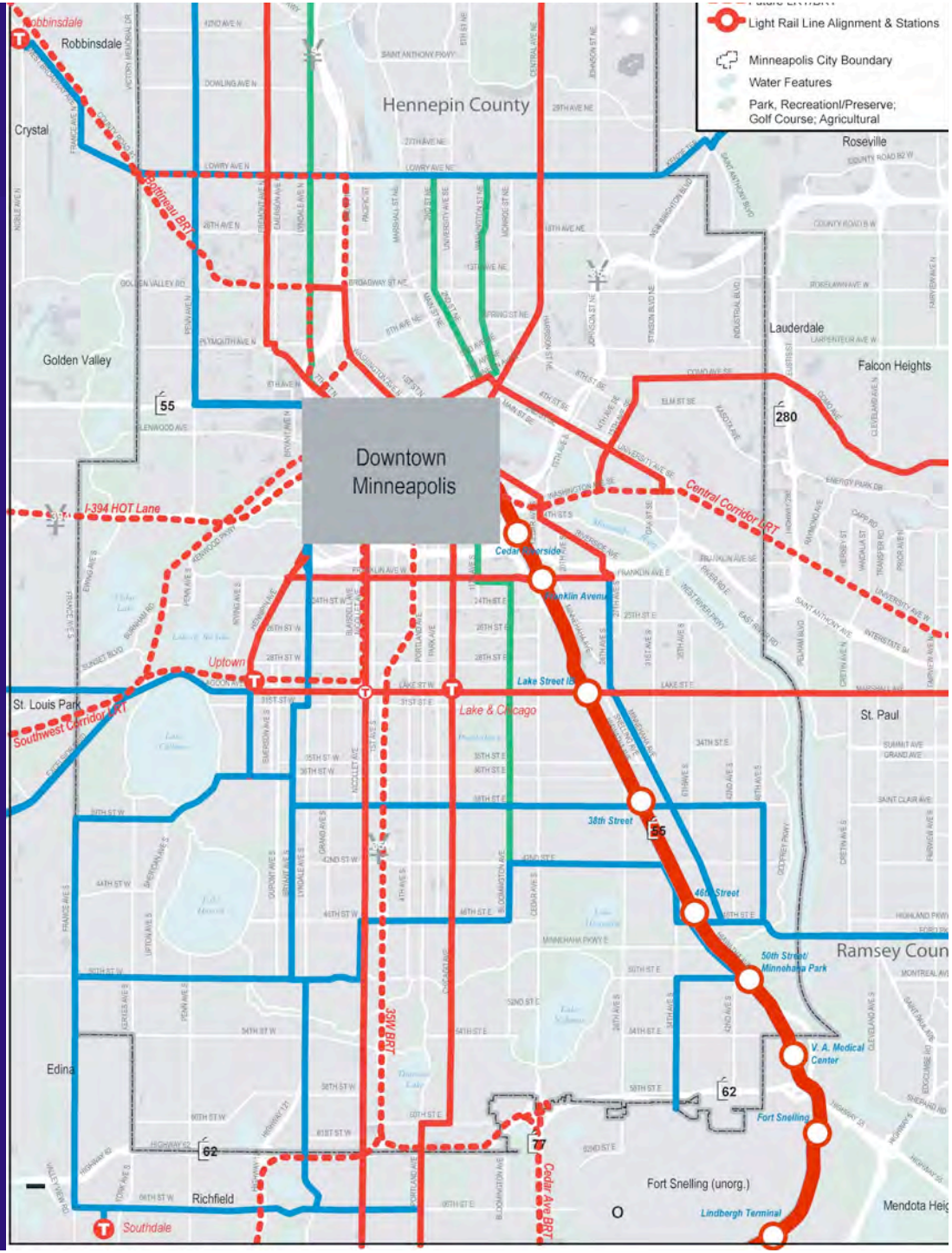
# Connectivity

- Neighborhood Commercial Nodes at Connector Intersections
- ¼ to ½ mile from adjacent neighborhood areas
- Form near continuous coverage of walkable access to retail/services



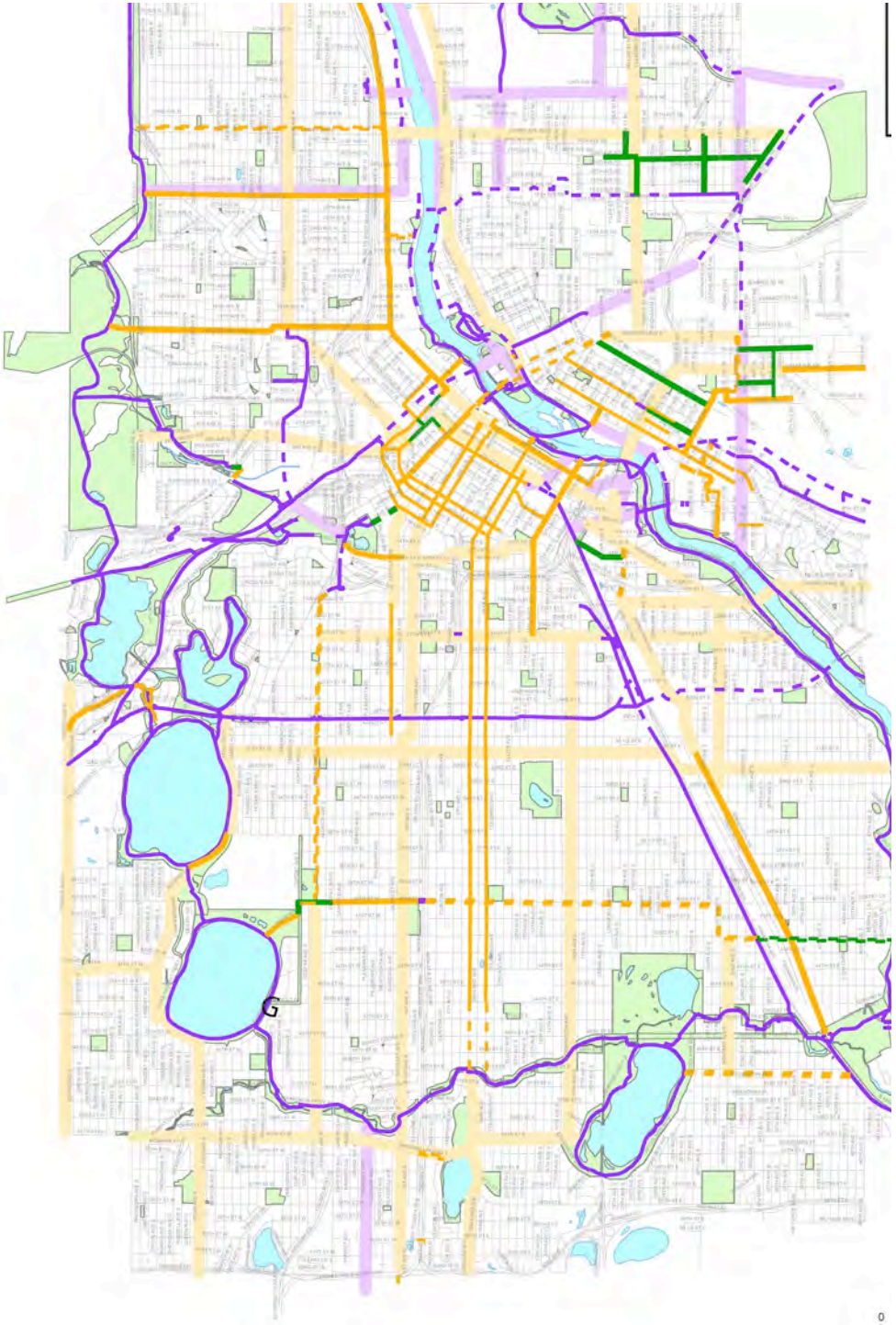
# Transit

- **Primary Network**
  - 10 minute headways
- **Follows Connector and Commercial Streets**

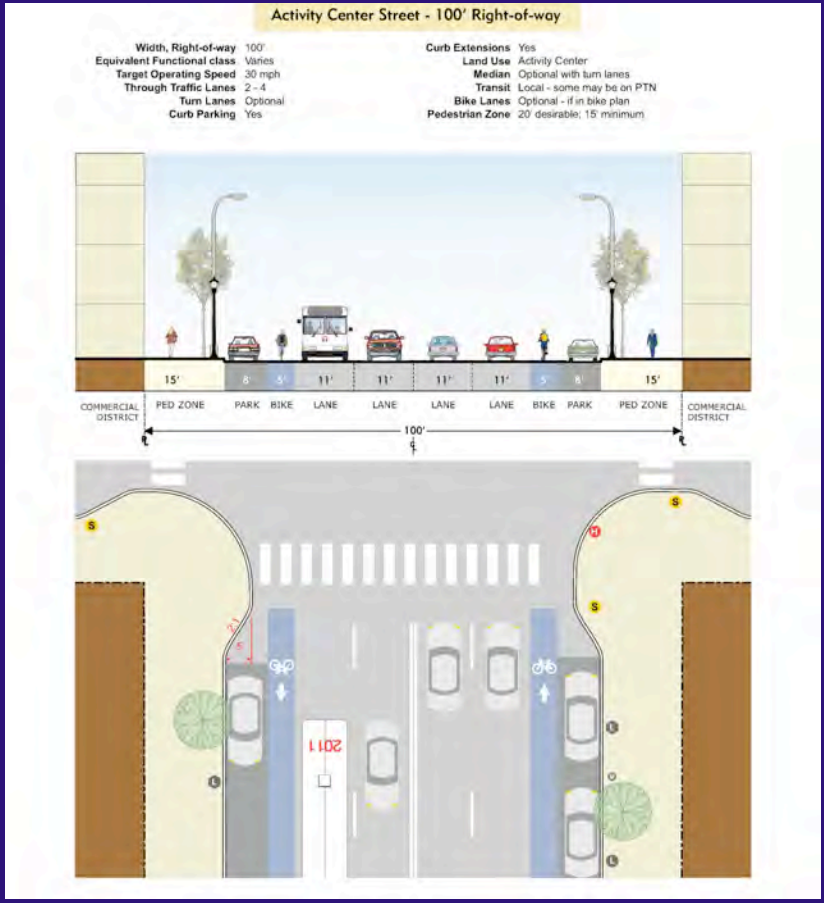


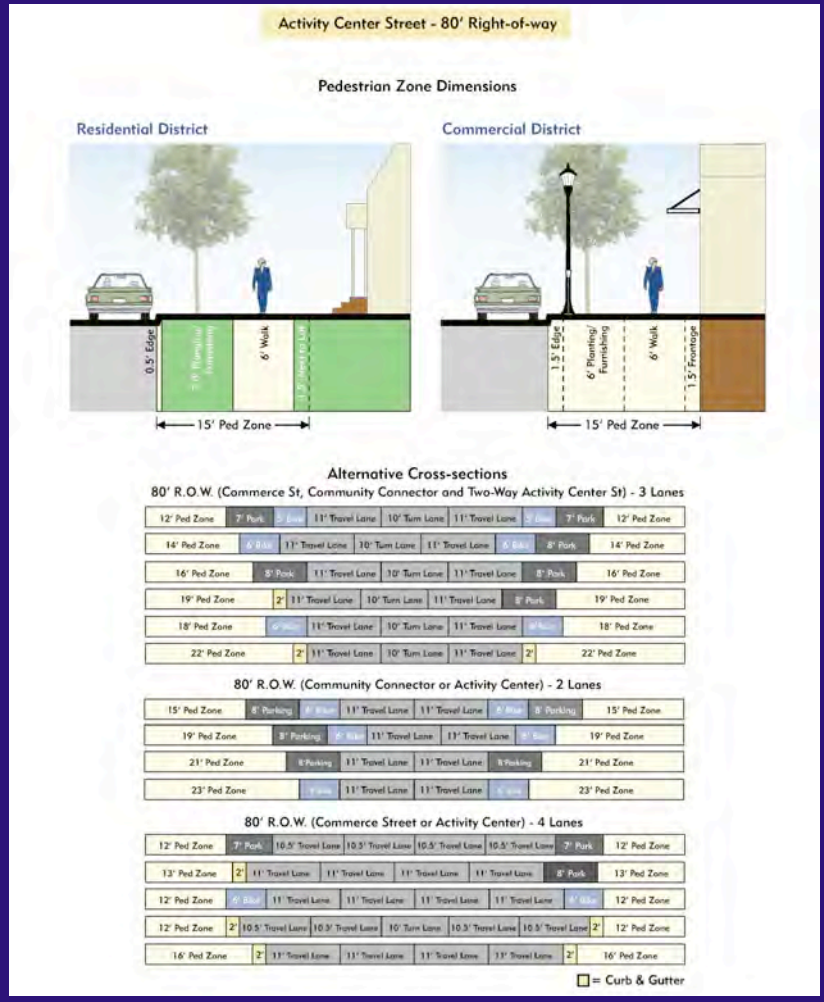
# Bicycle Network

- Follows Connectors and Parkways

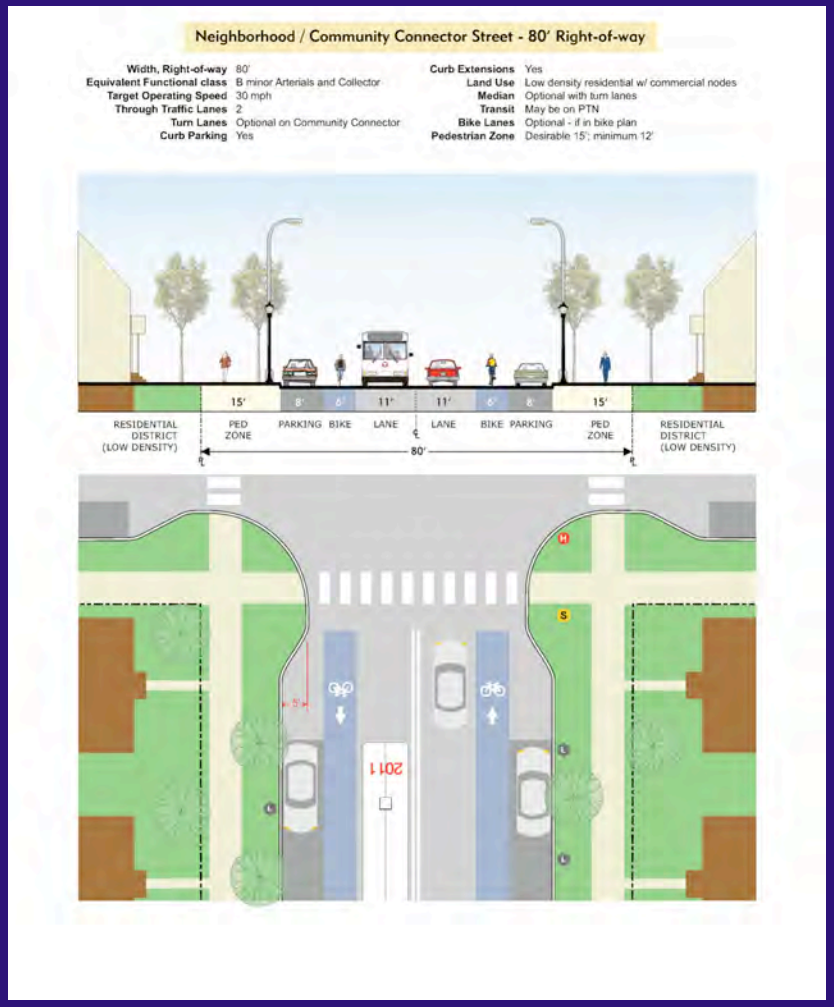


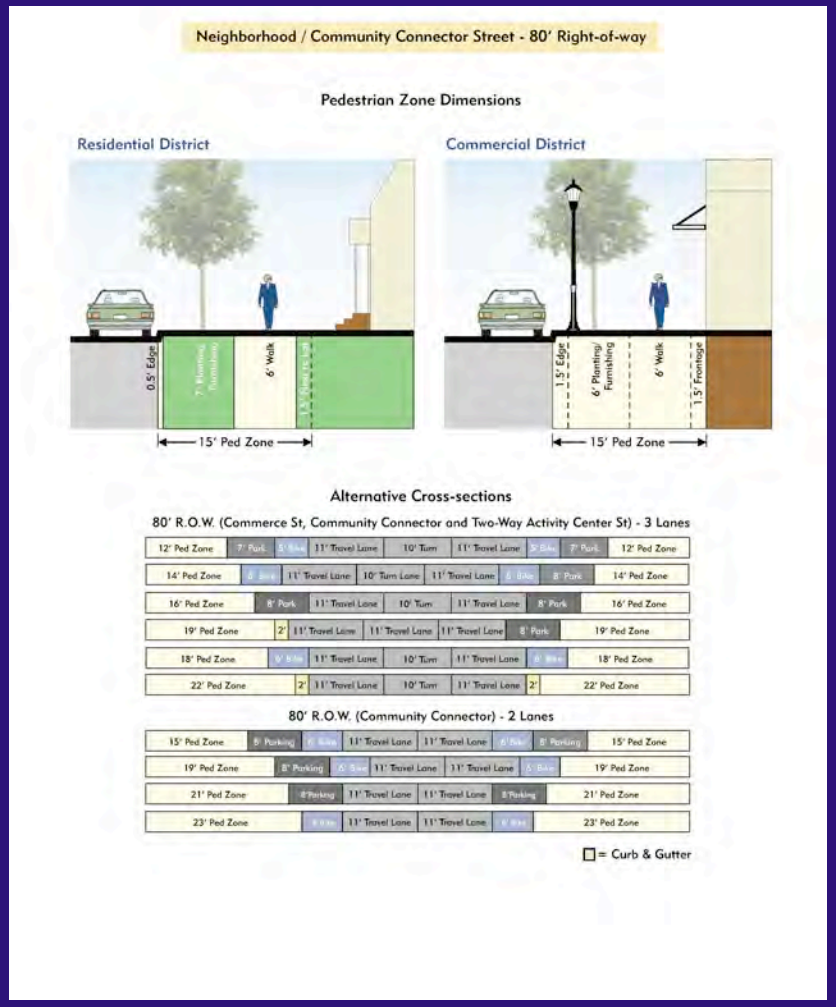
# Street Design Guidance – Activity Center Street



# Street Design Guidance – Neighborhood Connector



# Charlotte - Urban Street Design Guidelines

- **Thoroughfare Types**
  - Freeway
  - Class II - Limited Access
  - Commercial Arterial
  - Major
  - Minor
- **Major Collectors**
- **Street Type Classifications**
  - Non-Local Streets
    - Parkway
    - Boulevard
    - Avenue
    - Main Street
  - Local Streets
    - Residential
    - Office/Commercial
    - Industrial
- **Additional Special Streets**
  - In 2008 guidelines for a set of special streets are being prepared, including:
    - Green streets
    - Cul-de-sacs
    - One-way streets
    - Alleys
    - Private streets
- **Bikeway Facilities**
  - Bike Lane
  - Signed Bike Route
  - Signed Connection

# Charlotte - Urban Street Design Guidelines

- **Guiding Principles for Achieving a "Complete Street" Network**
  1) Streets are a critical component of public space
  2) Streets play a major role in establishing the image and identity of a city
  3) Streets provide the critical framework for current and future development
  4) Charlotte's streets will be designed to provide
     - Mobility
     - Support livability
     - Economic development goals.
  5) The safety, convenience, and comfort of motorists, cyclists, pedestrians, transit riders, and neighborhood residents will be considered when planning and designing Charlotte's streets.
  6) Planning and designing streets must be a collaborative process, to ensure that a variety of perspectives are considered.

# Charlotte - Urban Streets

- **Network - Block Size**
  **(there are additional creek crossings standards)**

| Land Use/Location | Preferred Block Length for Local Streets | Maximum Block Length for Local Streets |
|---|---|---|
| Transit Station Areas | 400 ft. | 600 ft. |
| Centers | 500 ft. | 650 ft. |
| Corridors | 600 ft. | 650 ft. |
| Non-Residential Uses | 500 ft. | 650 ft. |
| Industrial | 600 ft. | 1000 ft. |
| Residential => 5 dua (gross) in Wedges | 600 ft. | 650 ft. |
| Residential <5 dua (gross) in Wedges | 600 ft. | 800 ft. |

# Charlotte - Urban Streets

## ❖Bicycle Network

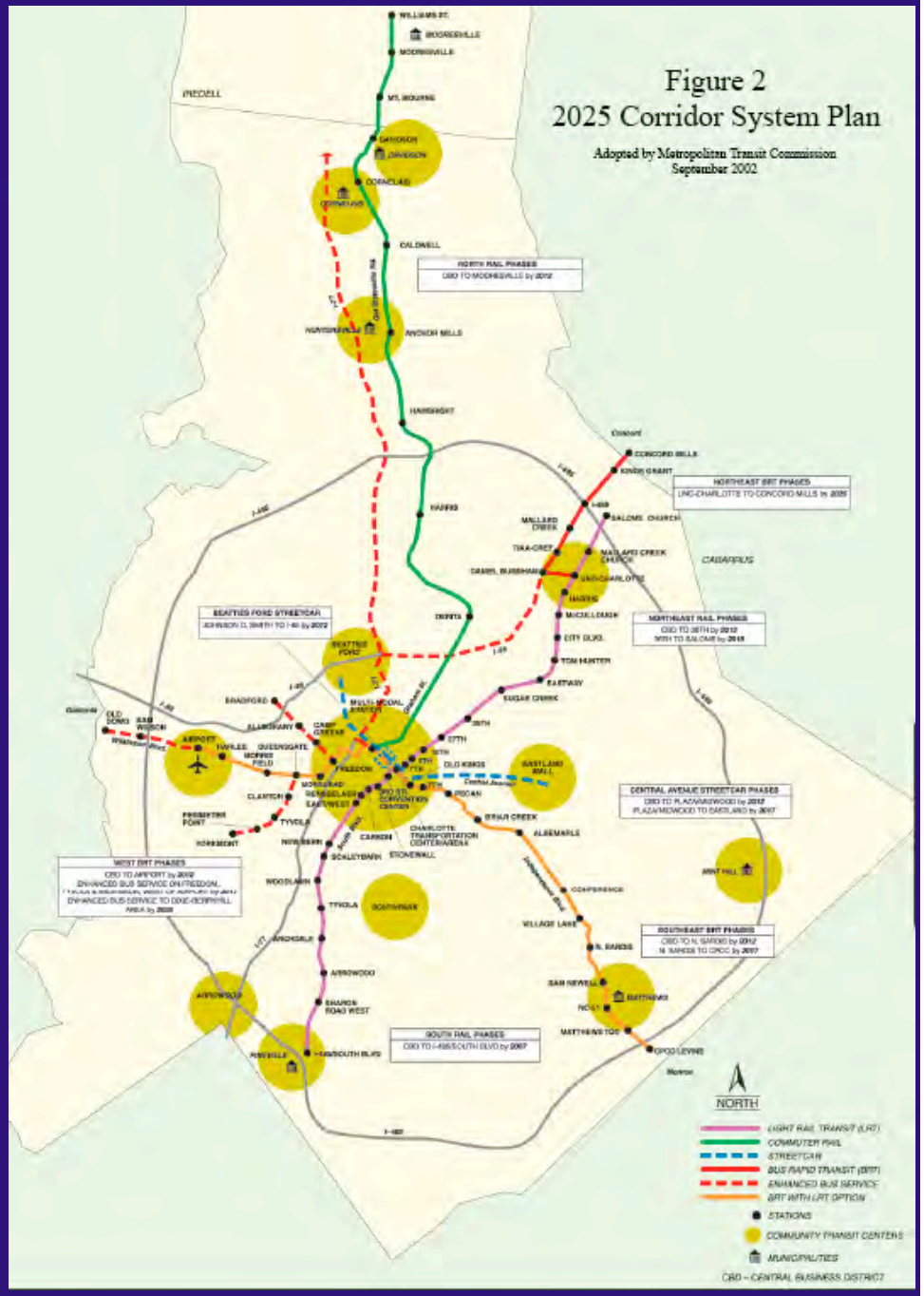
- Bike lanes incorporated into new or existing Avenues and Boulevards.
- Main Streets and Local Streets will not typically include bike lanes.
- Parkways will incorporate bike pathways outside of the Parkway right-of-way or in one or more nearby, connected Local Streets.
- The bicycle travel network will include signed bike routes on Local Streets connecting to bike lanes on Avenues, Boulevards, or Parkways.
- Design teams will justify why bike lanes would not be included for any street segment where bike lanes would generally be expected.

# Charlotte - Urban Streets

## ❖Transit Network

**(adopted Corridor System Plan)**

- Light Rail Transit (LRT)
- Commuter Rail
- Streetcar
- Bus Rapid Transit (BRT)
- Enhanced Bus Service
- BRT with LRT Option



# The Urban Network/
## Regional Transportation Structure

*Does this network not isolate NCs from the Movement Economy?*

Thruways

Transit Boulevards

Local Arterials

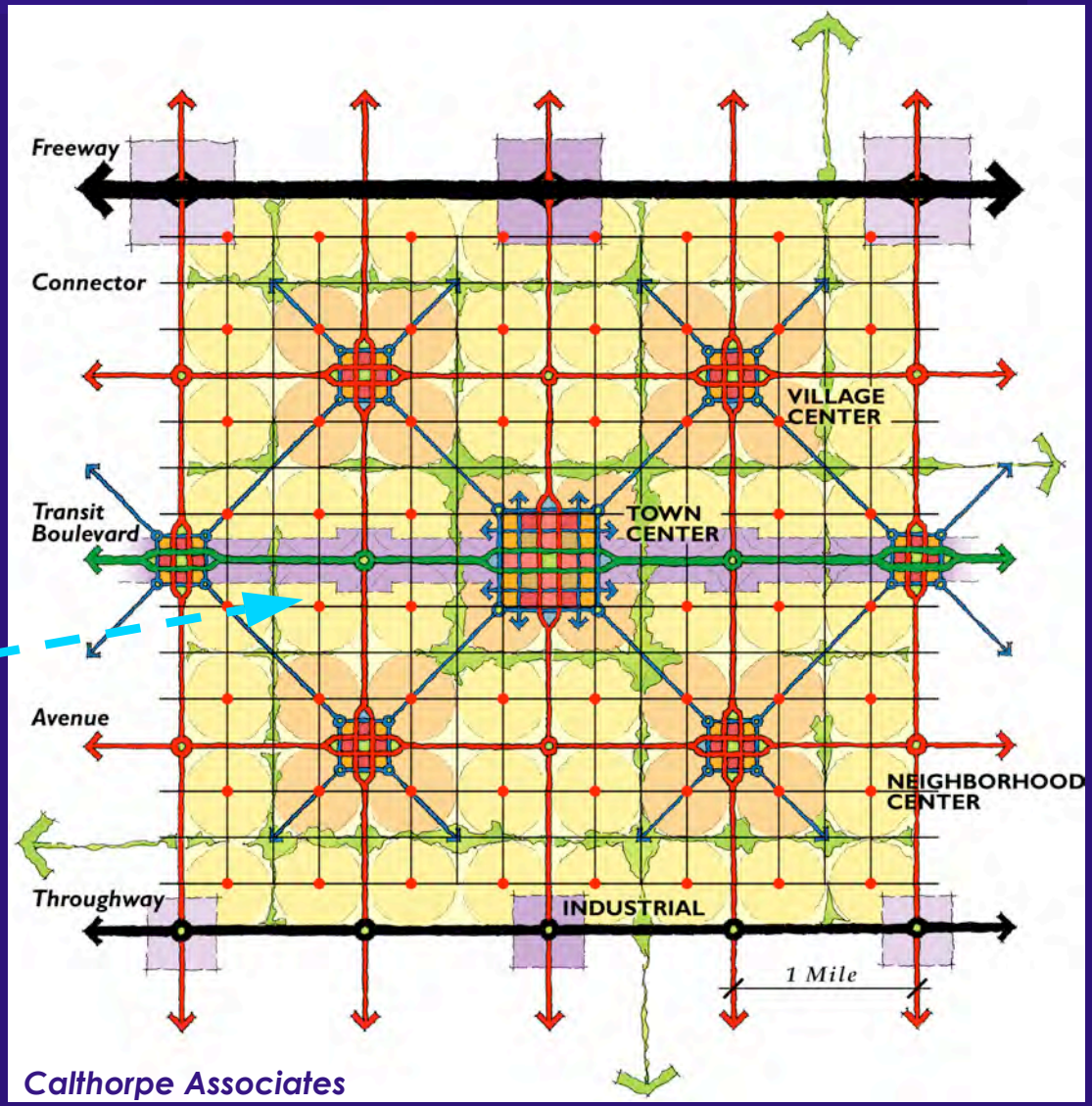
Connector Streets

Local Streets

*What is impact on their retail of putting NCs a quarter-mile from the main Movement Economy, and not on it?*

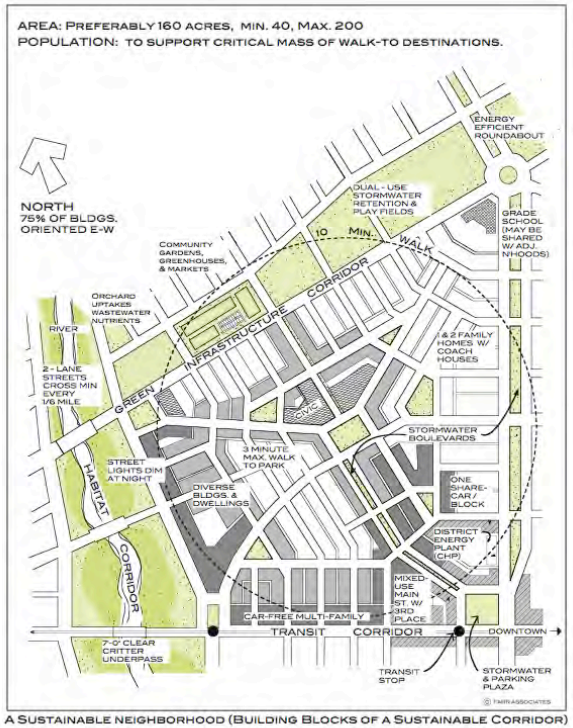
One mile

*Isn't the mile spacing causing the arterial and retail giganticism?*

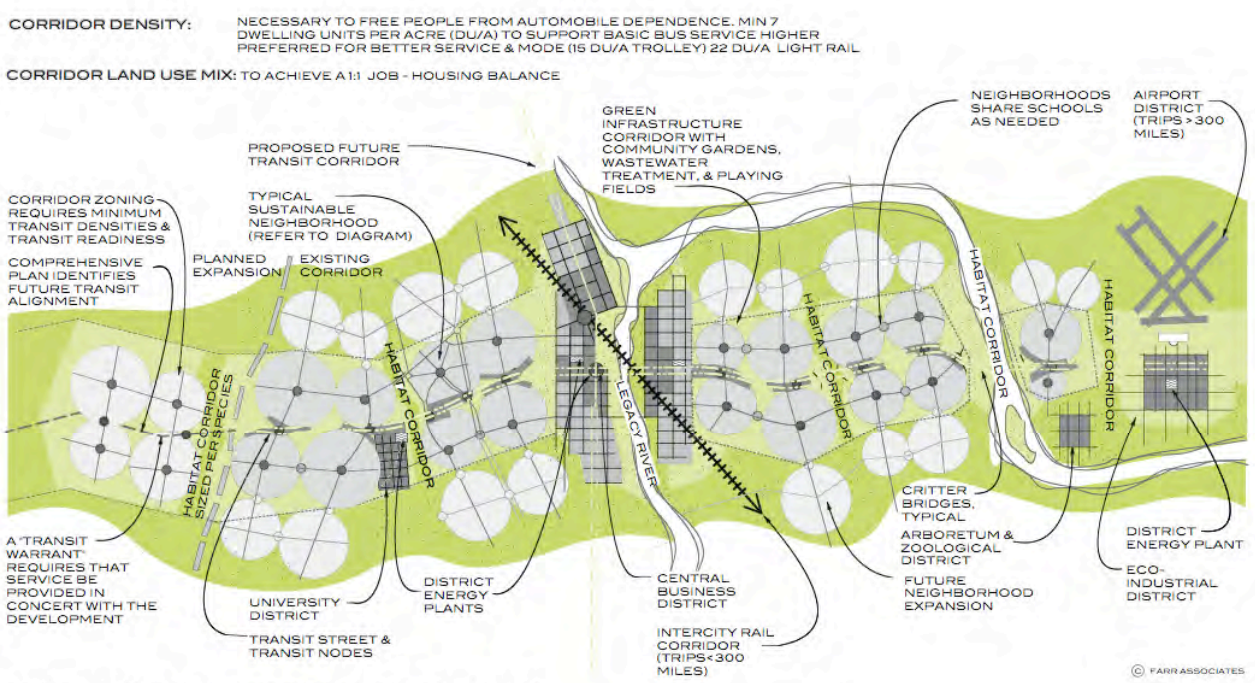



*Calthorpe Associates*

# An Introduction to this Session by Doug Farr

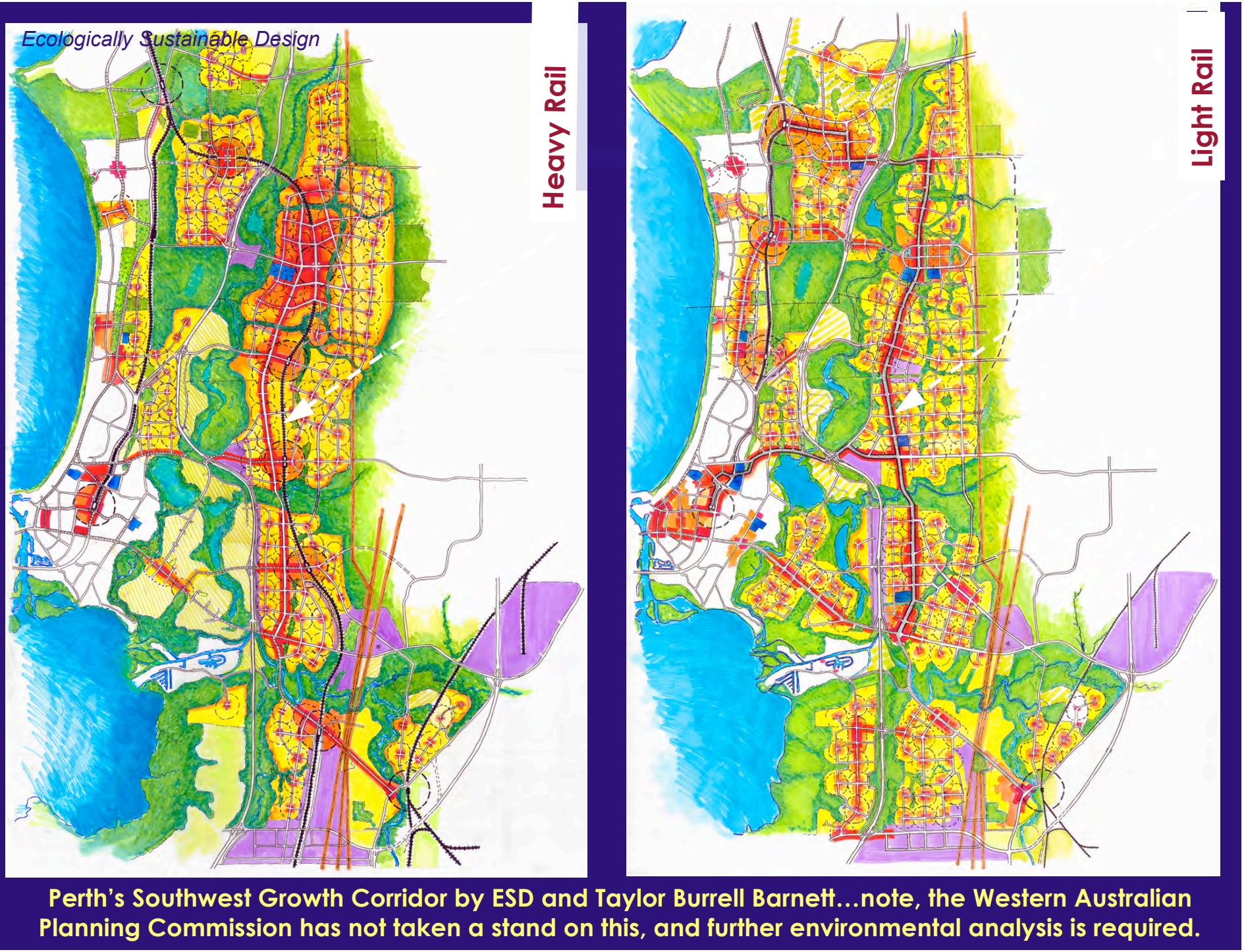


A SUSTAINABLE NEIGHBORHOOD (BUILDING BLOCKS OF A SUSTAINABLE CORRIDOR)

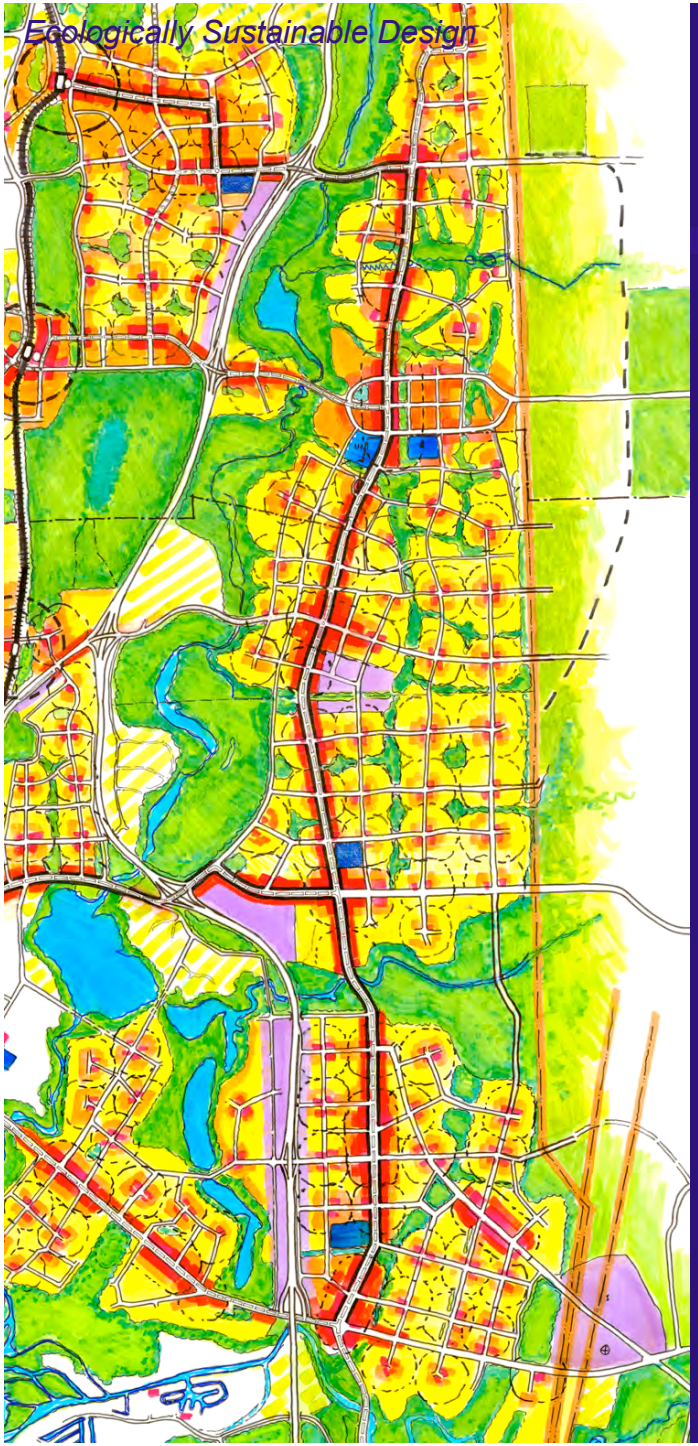


A SUSTAINABLE CORRIDOR (BUILDING BLOCKS OF A SUSTAINABLE REGION)

**"It is hard not to think of this book as a first draft, destined to be written over and over, as our collective knowledge, achievements and sense of urgency increase."** p. 10, *Sustainable Urbanism*




**Perth's Southwest Growth Corridor by ESD and Taylor Burrell Barnett…note, the Western Australian Planning Commission has not taken a stand on this, and further environmental analysis is required.**



# Heavy and Light Rail required distinct designs for same site

Light Rail ***attracts*** urban centers to it, while Heavy Rail ***divides*** urban centers, except at stations (spaced miles apart, depending on type of heavy rail).

Light Rail is linear, while Heavy Rail is nodal.

Light Rail shares freeway intersection, while Heavy Rail bypasses it

Heavy Rail runs beneath hills (or bypasses them), while light rail climbs them

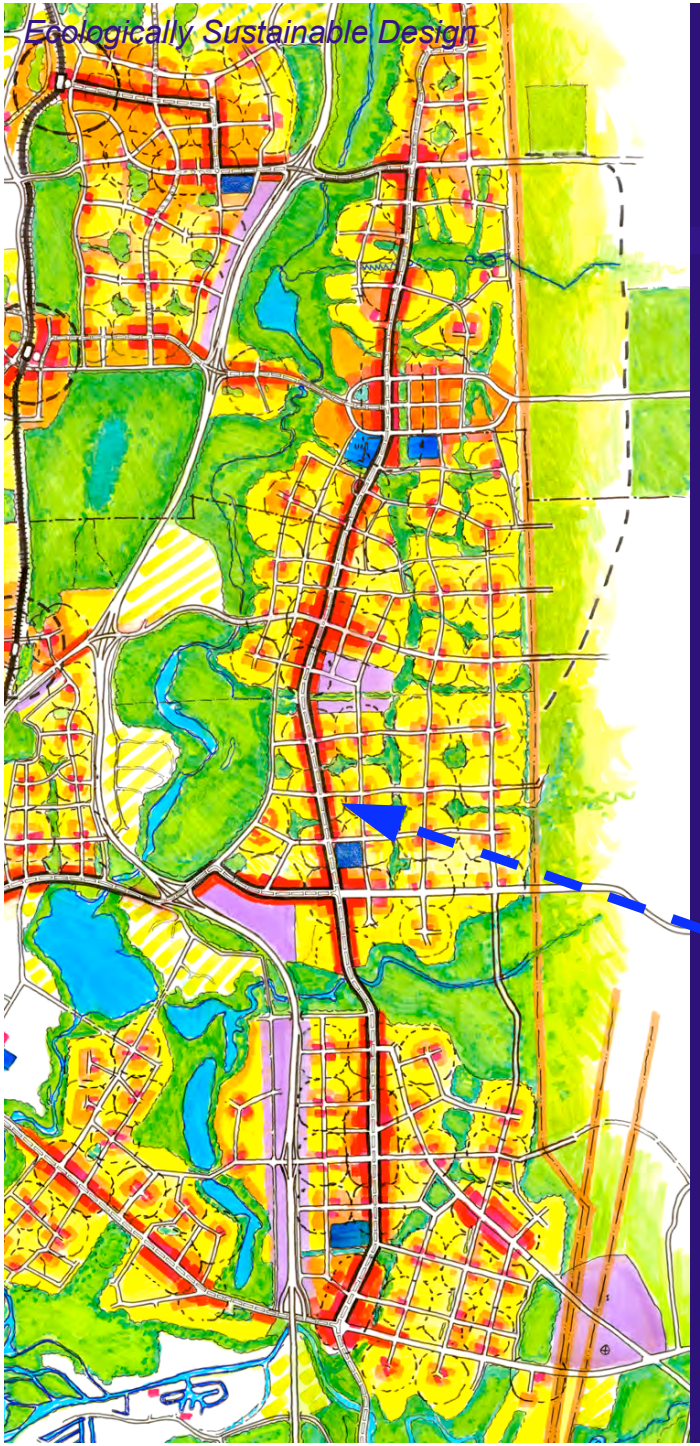
Partial plan for Perth's Southwest Growth Corridor by ESD and Taylor Burrell Barnett…note, the WAPC has not taken a stand on this, and further environmental analysis is required.

# Movement Network

‘Capillary Bus Routes’ serve every neighborhood center, with both Light and Heavy Rail.

Only 4-laner is the Business Boulevard (both modes), whose Movement Economy anchors the Heavy Rail Station Towns at one end, with the station at the other, all other streets are two-laners.

Only 4-laner for Light Rail is its Business Spine



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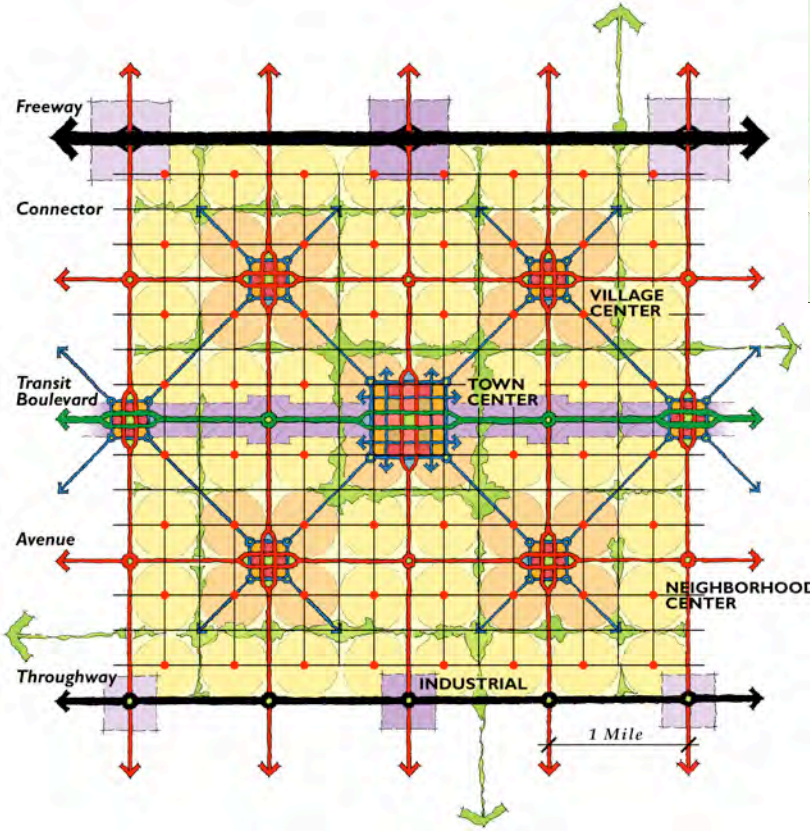
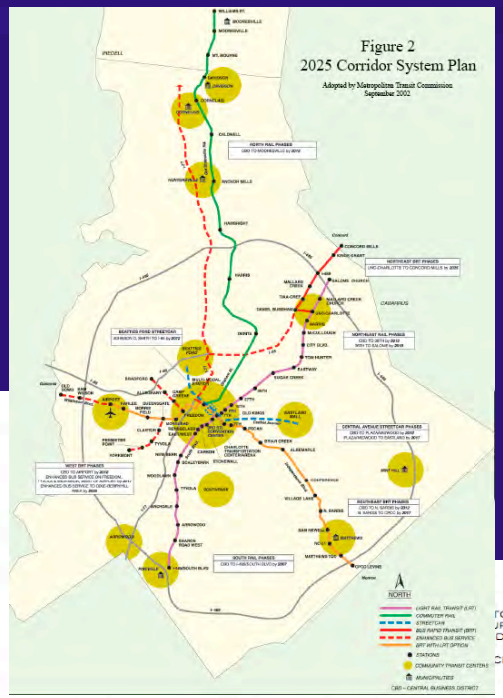
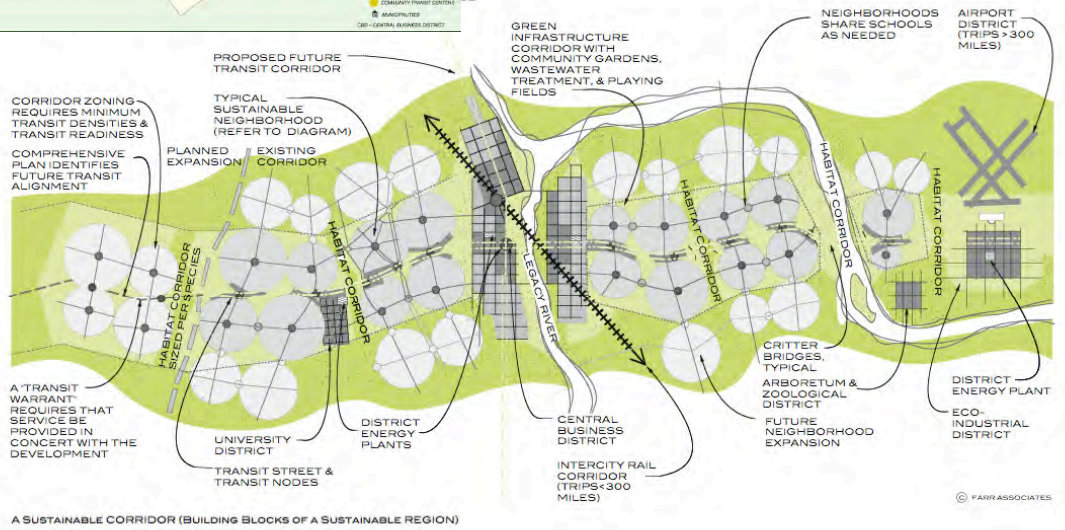
# Outstanding Network Issues?

- Let's Talk

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