




# Sustainable Madison Transportation Plan Oversight Committee


October 30, 2013

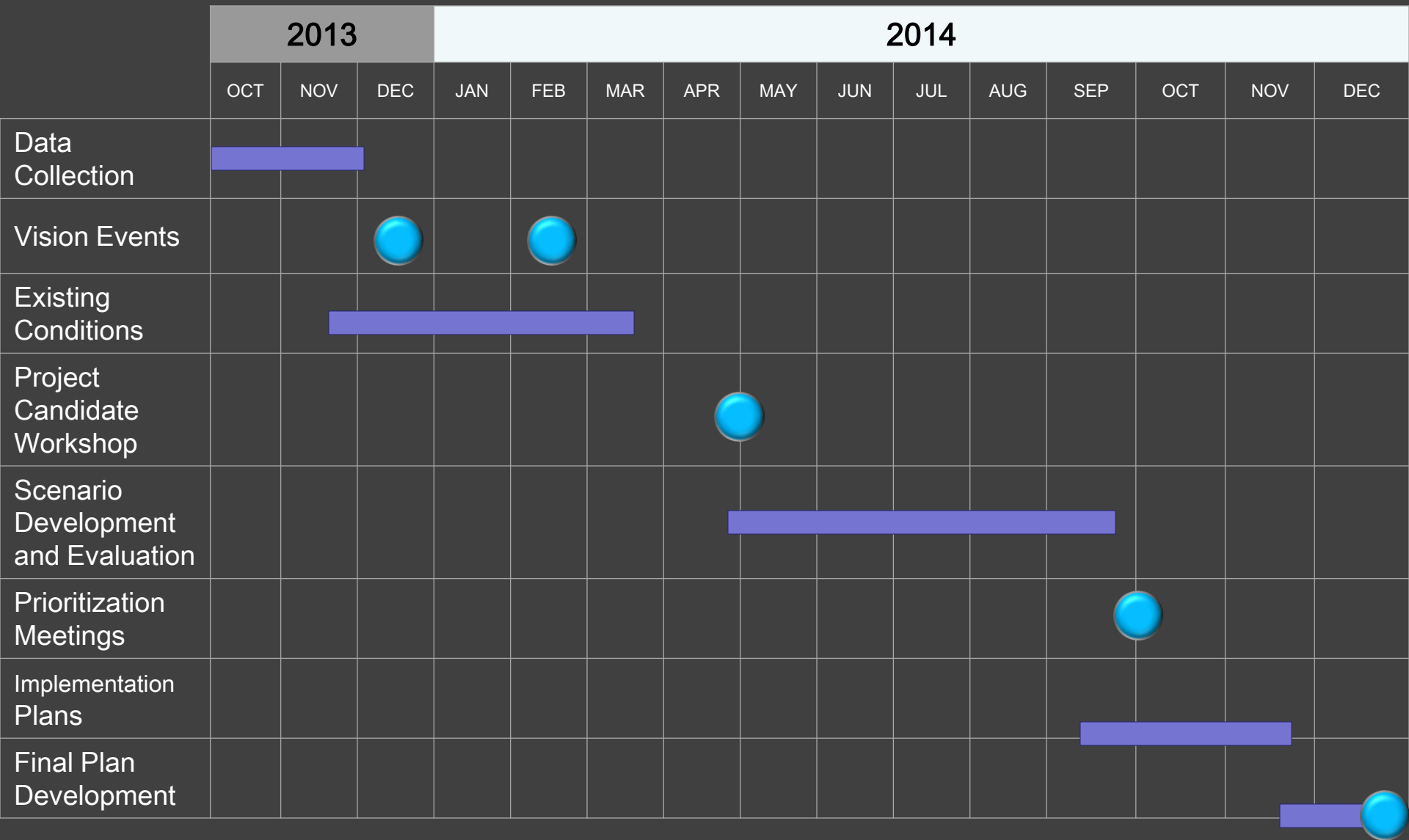
# Project Process

- Confirm Community Vision
- Set Goals/Evaluation Metrics
- Identify Candidate Projects
- Evaluate and Prioritize Projects
- Document Plan

# Schedule

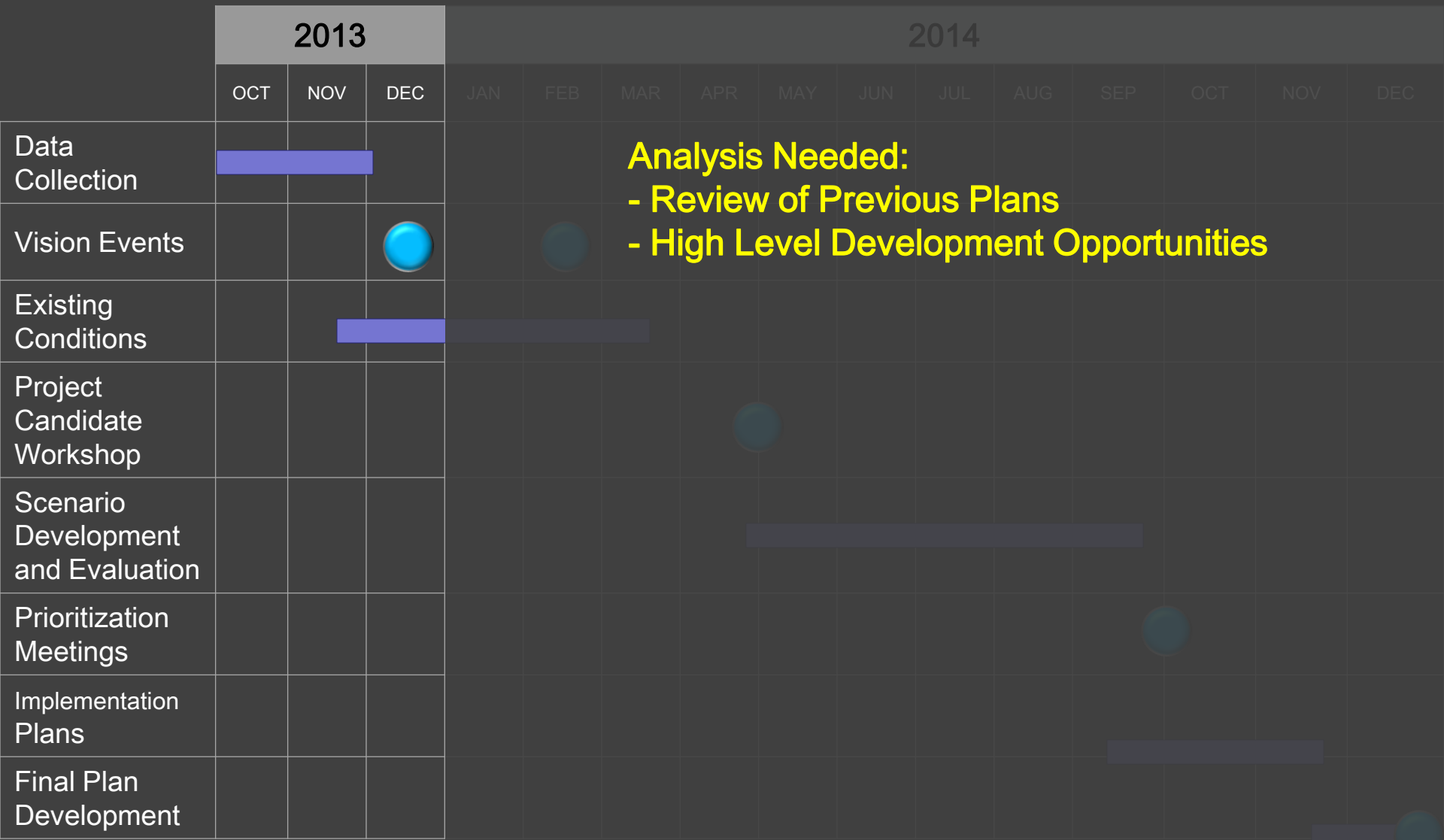
*Ongoing Effort*

*Milestone Public Activity*



# Schedule

*Ongoing Effort*  
*Milestone Public Activity*



Analysis Needed:  
- Review of Previous Plans  
- High Level Development Opportunities

# Outcome - Plan Goals

provide Mobility Choices

protect Safety and Health

assure Equity for All System Users


maintain Fiscal Responsibility

promote Beneficial Growth

assure Environmental Sustainability

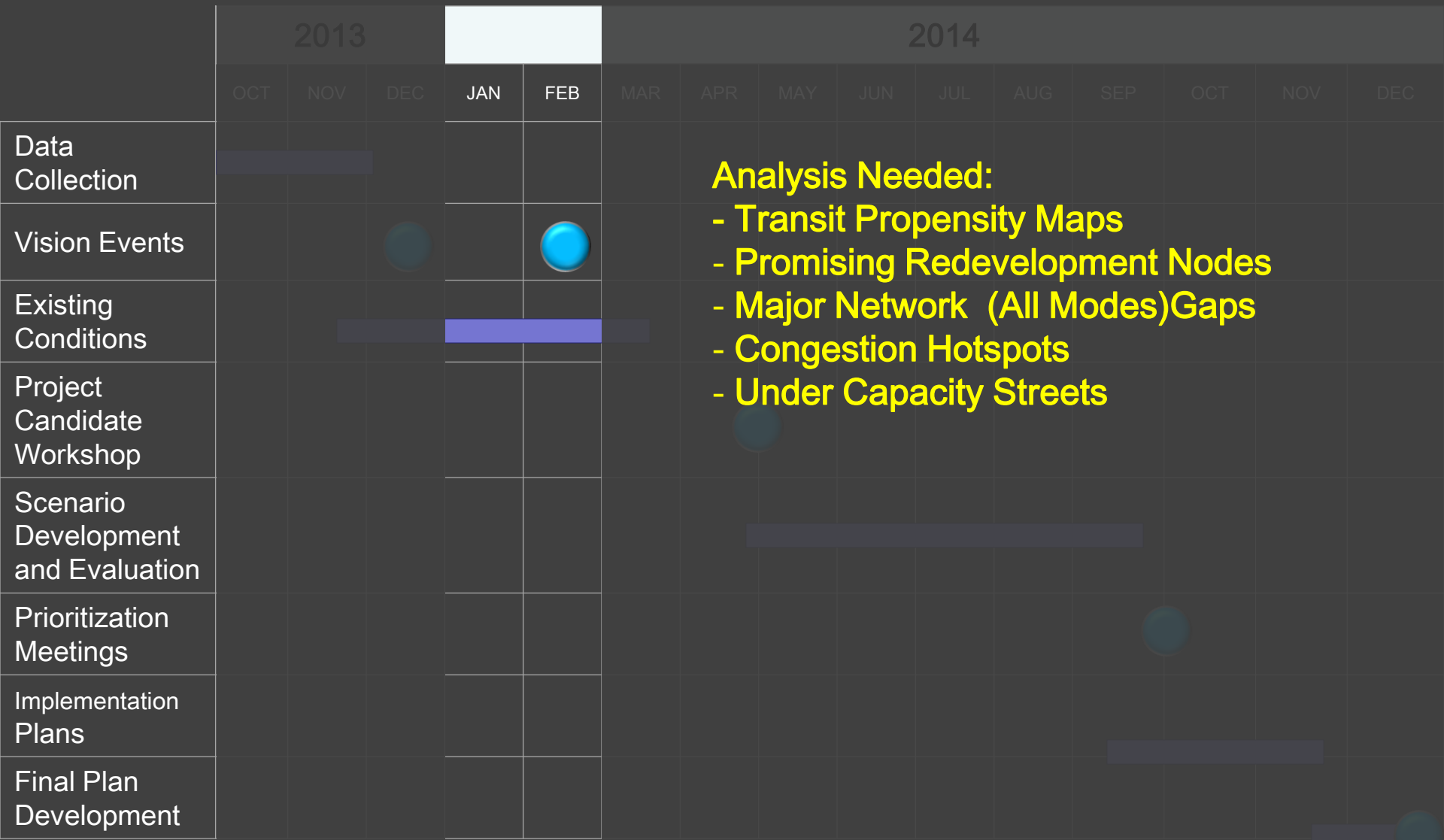
enhance Neighborhoods

# Schedule



Ongoing Effort

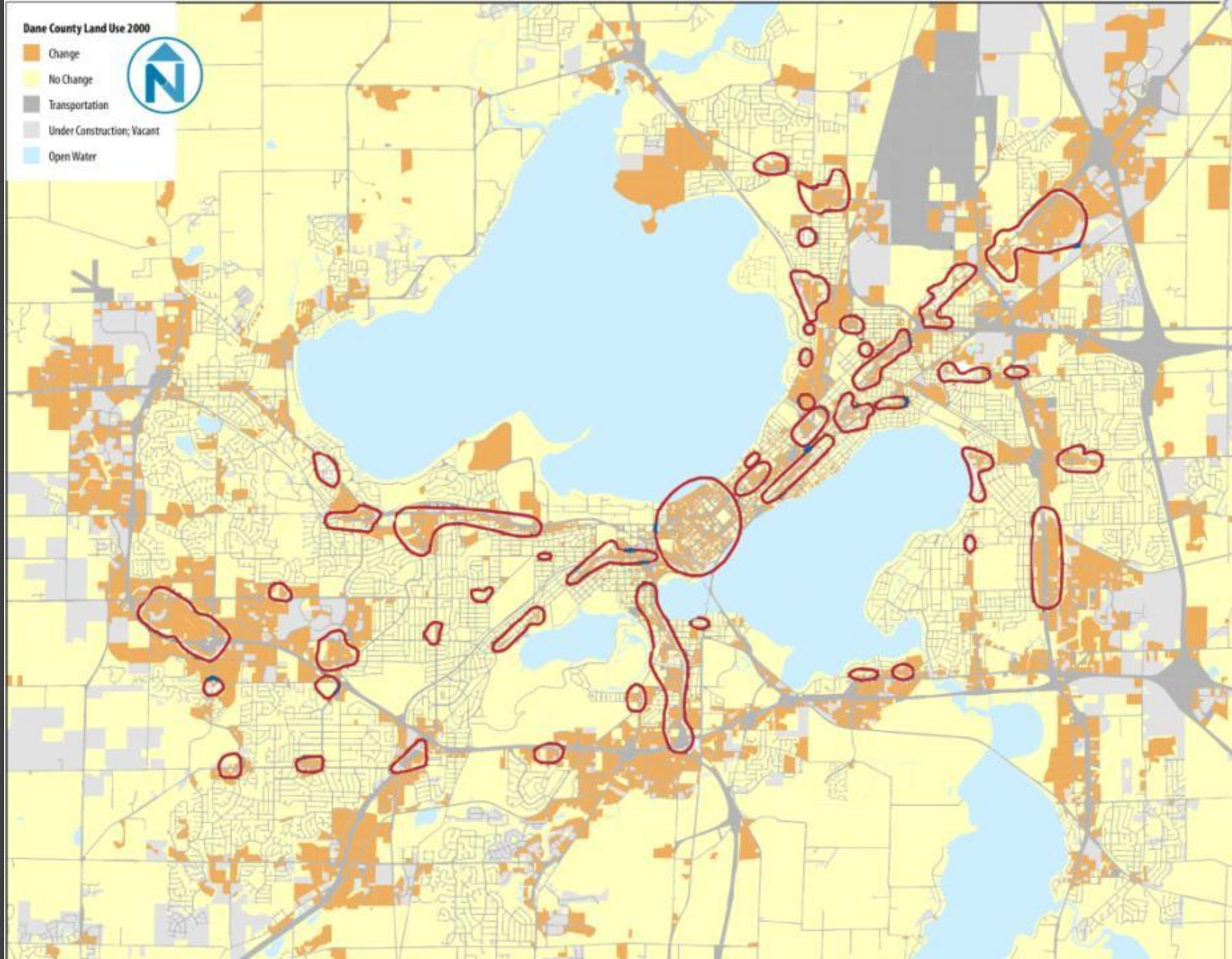
Milestone Public Activity



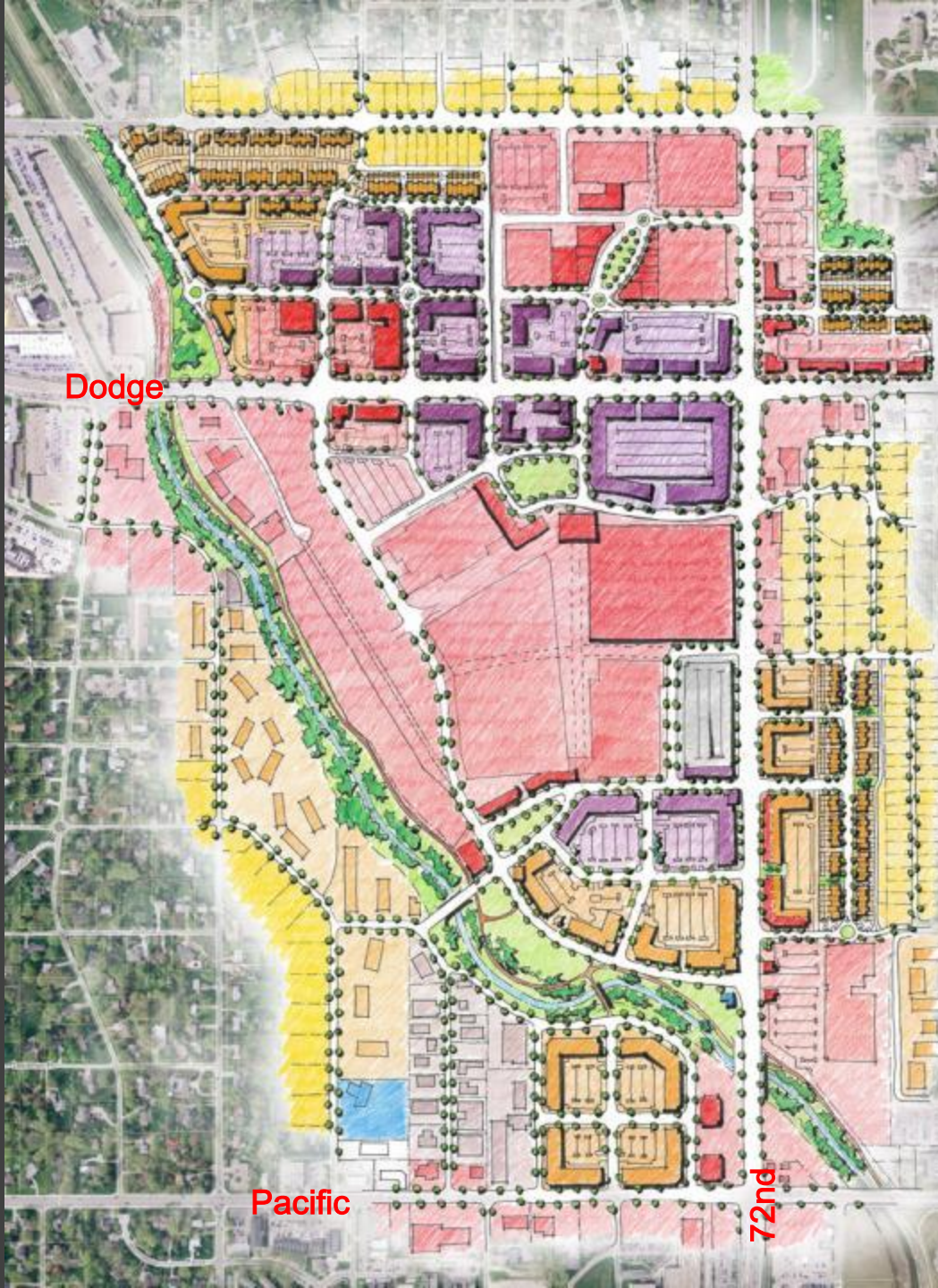
- Analysis Needed:
- Transit Propensity Maps
  - Promising Redevelopment Nodes
  - Major Network (All Modes) Gaps
  - Congestion Hotspots
  - Under Capacity Streets

Dane County Land Use 2000

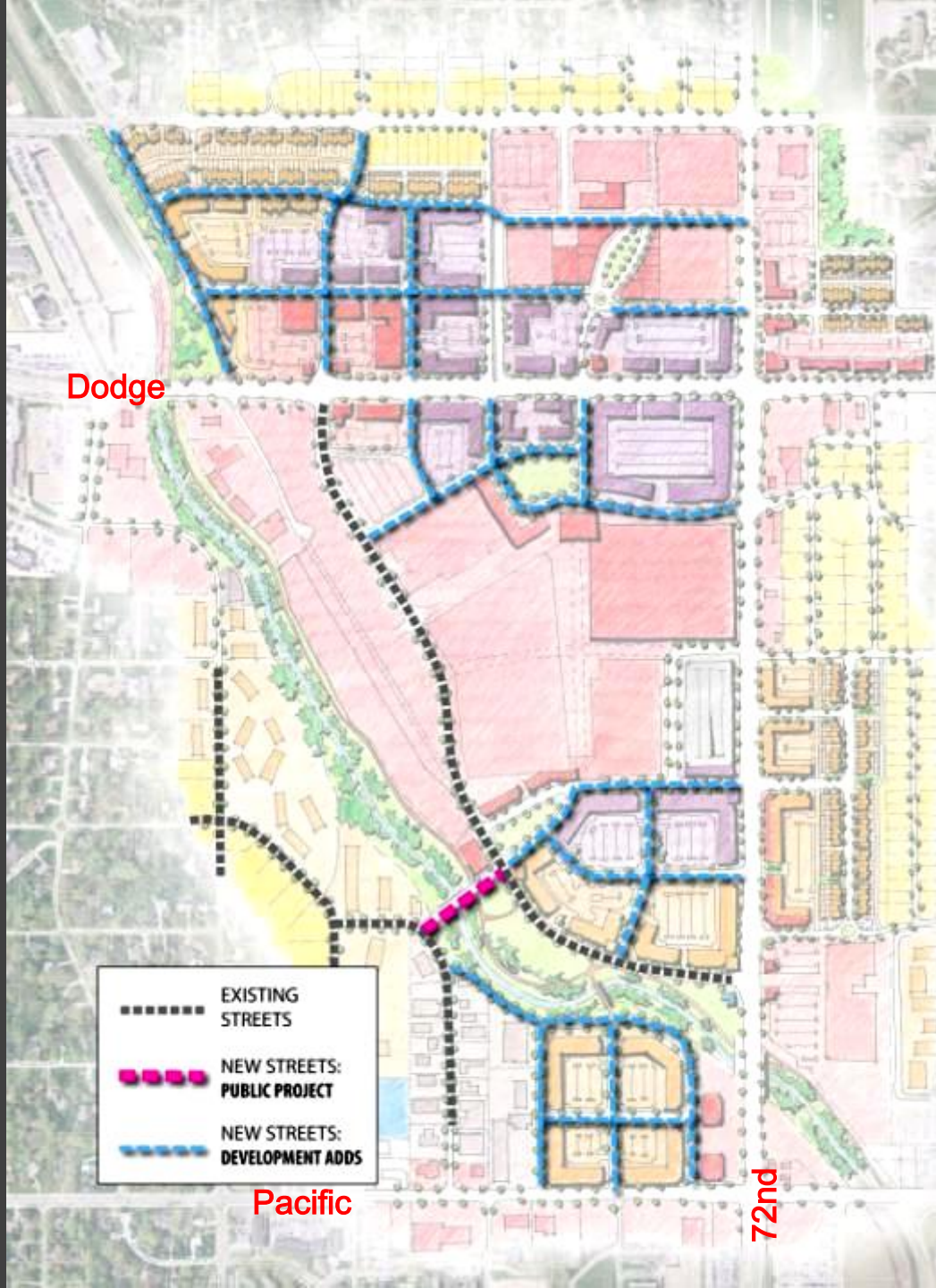
- Change
- No Change
- Transportation
- Under Construction; Vacant
- Open Water



Redevelopment sites add  
network



## Redevelopment sites add network



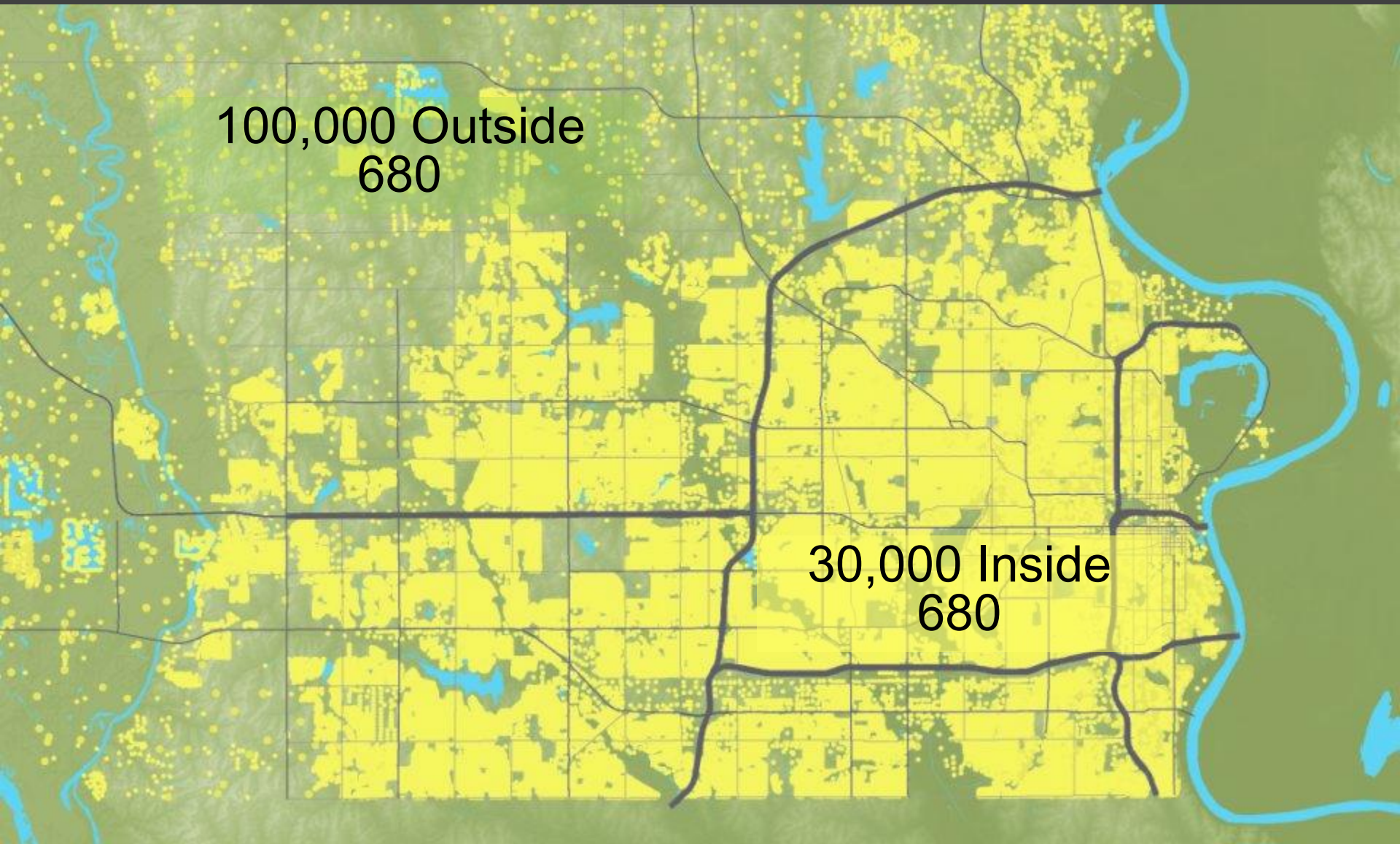


120,000 Outside Loop

The image shows a map of a city area with a grid of yellow dots representing data points. A black line, representing a loop, is drawn across the map. The dots are concentrated in the area outside the loop, while the area inside the loop is mostly empty. The map also shows some blue lines representing water bodies and a green background representing land.

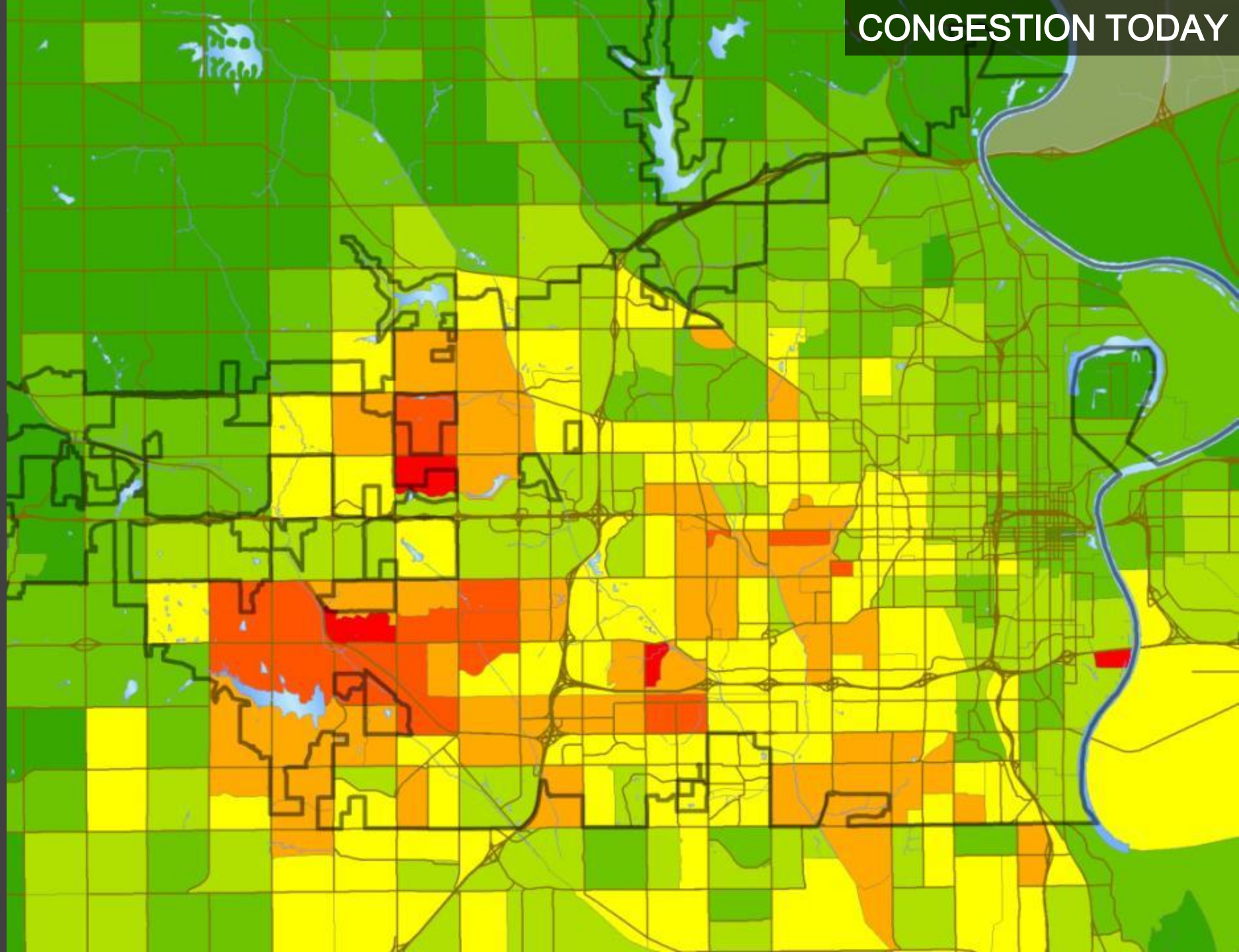
10,000 Inside Loop

# 2035 Greater Infill Focus



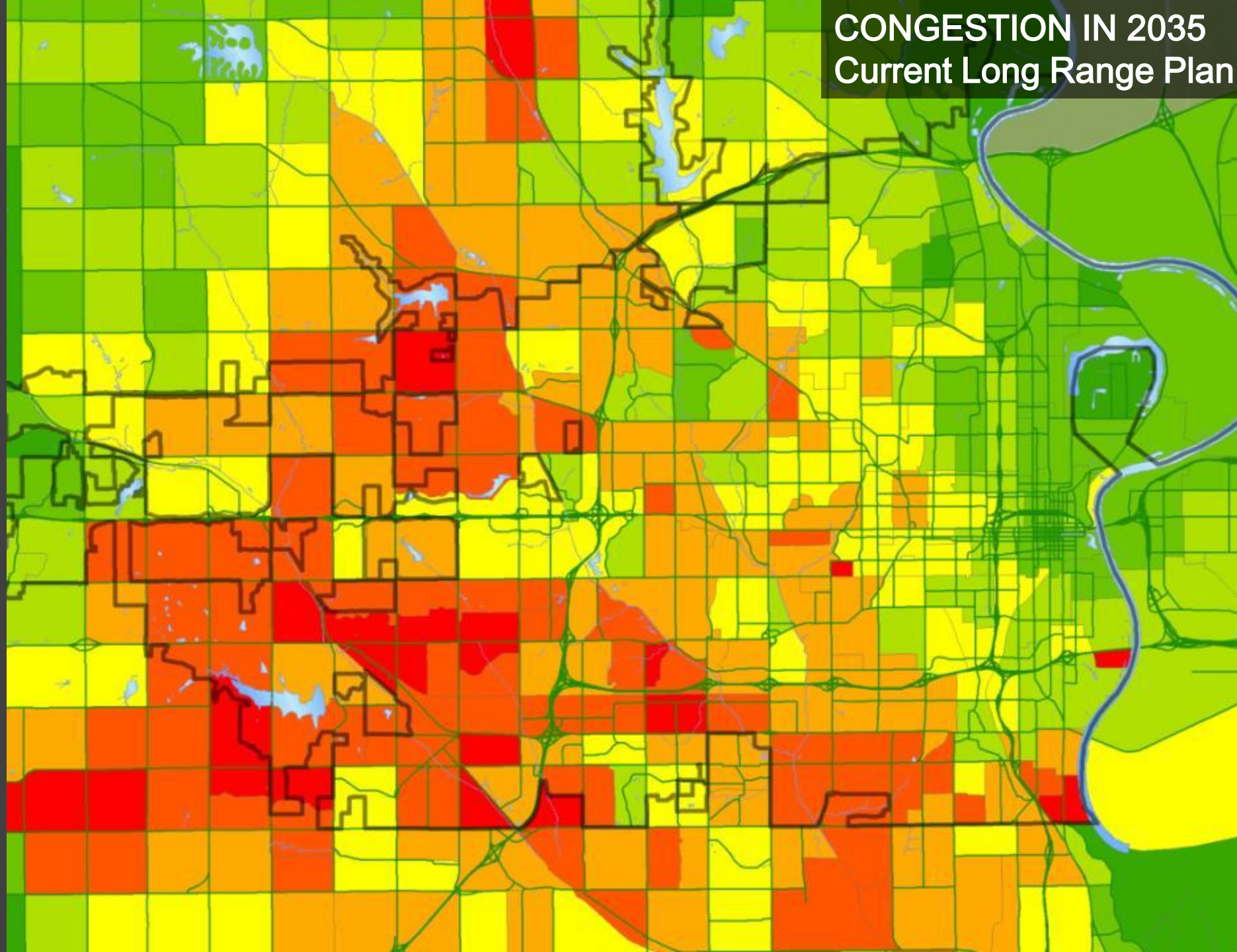
Additional 20,000 Stay Outside Loop, But Move Closer In

# CONGESTION TODAY

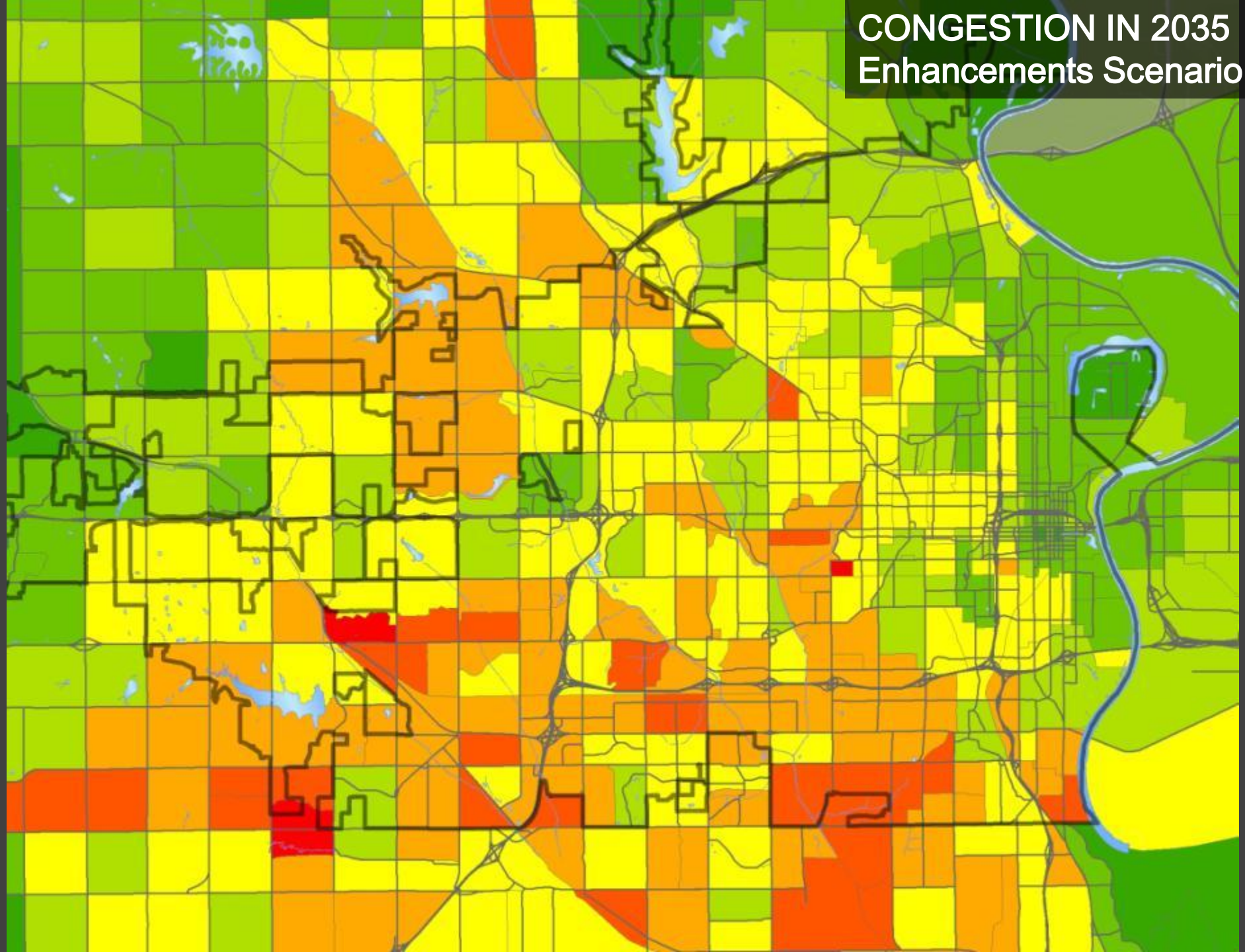


# CONGESTION IN 2035

## Current Long Range Plan



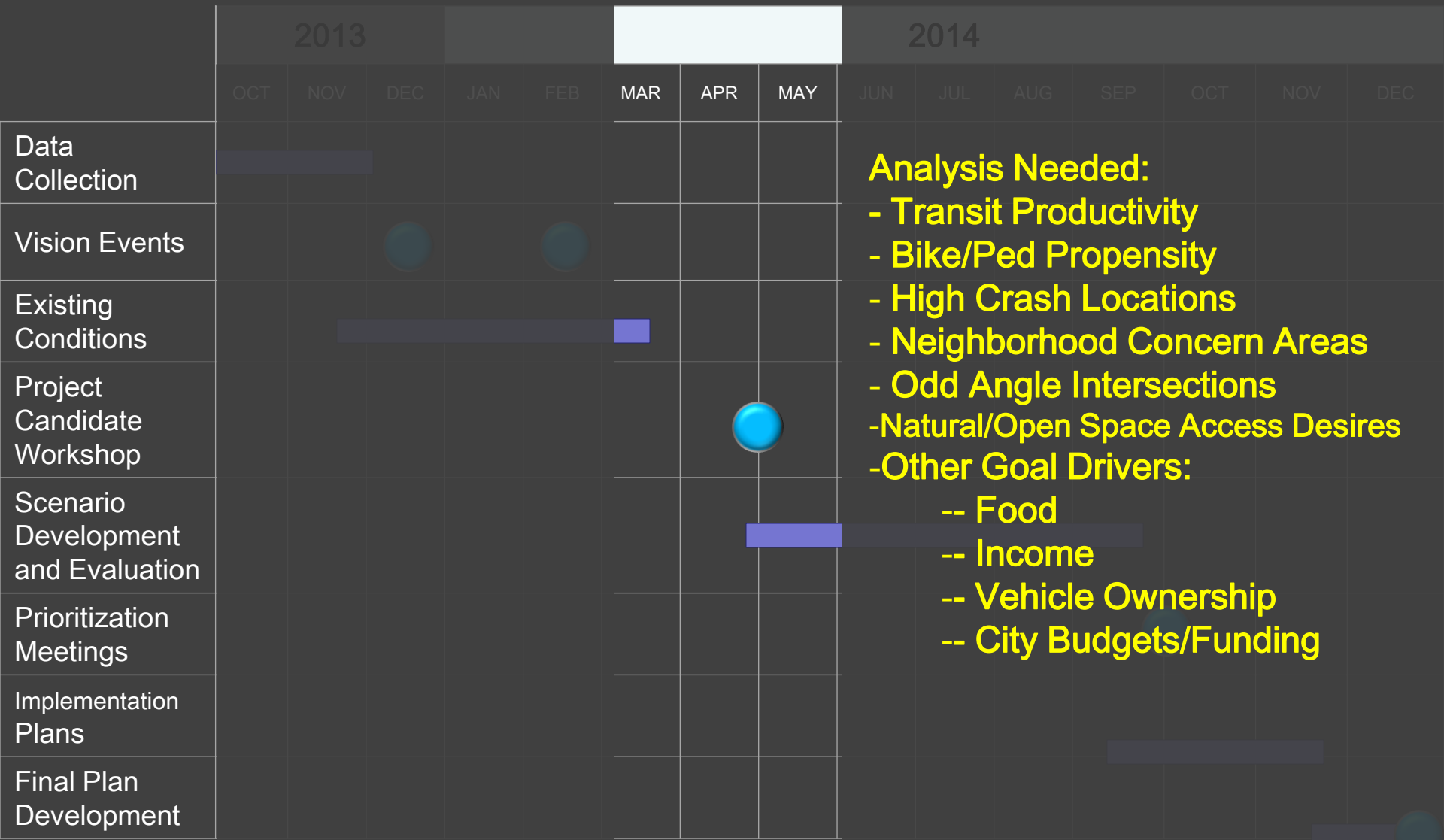
# CONGESTION IN 2035 Enhancements Scenario



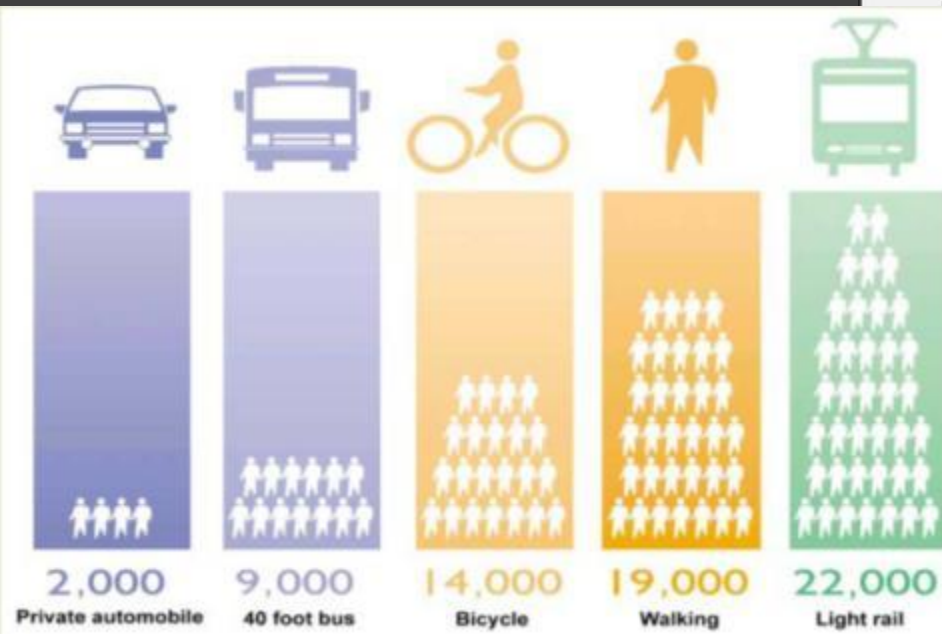
# Schedule



*Ongoing Effort*  
*Milestone Public Activity*



- Analysis Needed:**
- Transit Productivity
  - Bike/Ped Propensity
  - High Crash Locations
  - Neighborhood Concern Areas
  - Odd Angle Intersections
  - Natural/Open Space Access Desires
- Other Goal Drivers:**
- Food
  - Income
  - Vehicle Ownership
  - City Budgets/Funding



## Best Practices Freight Mobility

Managing Freight Mobility

Managing freight mobility is more complex than for the city's perspective, the private sector, and the public sector. The city's concern is the safety of moving goods and services through the city's streets and highways. The city's concern is the safety of moving goods and services through the city's streets and highways.

## Best Practices Transportation Demand Management (TDM)

What is TDM?

Transportation Demand Management (TDM) is a set of strategies and programs designed to reduce the number of single-occupant vehicles on the road. TDM strategies include carpooling, transit, telecommuting, and other measures that reduce the need for travel.

## Best Practices Transit

How can Seattle improve its transit system?

Seattle's transit system is facing many challenges, including increasing demand, aging infrastructure, and limited funding. To improve the system, Seattle needs to implement a variety of strategies, including increasing transit service, improving transit infrastructure, and increasing transit funding.

## Best Practices Urban Ecology and Climate Action

Using transportation policy to help reach Seattle's ecological and climate action goals.

Seattle's climate action plan calls for reducing greenhouse gas emissions by 50% by 2050. Transportation is a major source of greenhouse gas emissions, and implementing transportation policies that reduce vehicle miles traveled (VMT) is a key strategy for meeting this goal.


**Seattle's Ecological Footprint**


Seattle's ecological footprint is the amount of land and water required to produce the goods and services consumed by the city. The city's footprint is larger than the land area of the city, indicating that the city is consuming resources from other parts of the world.

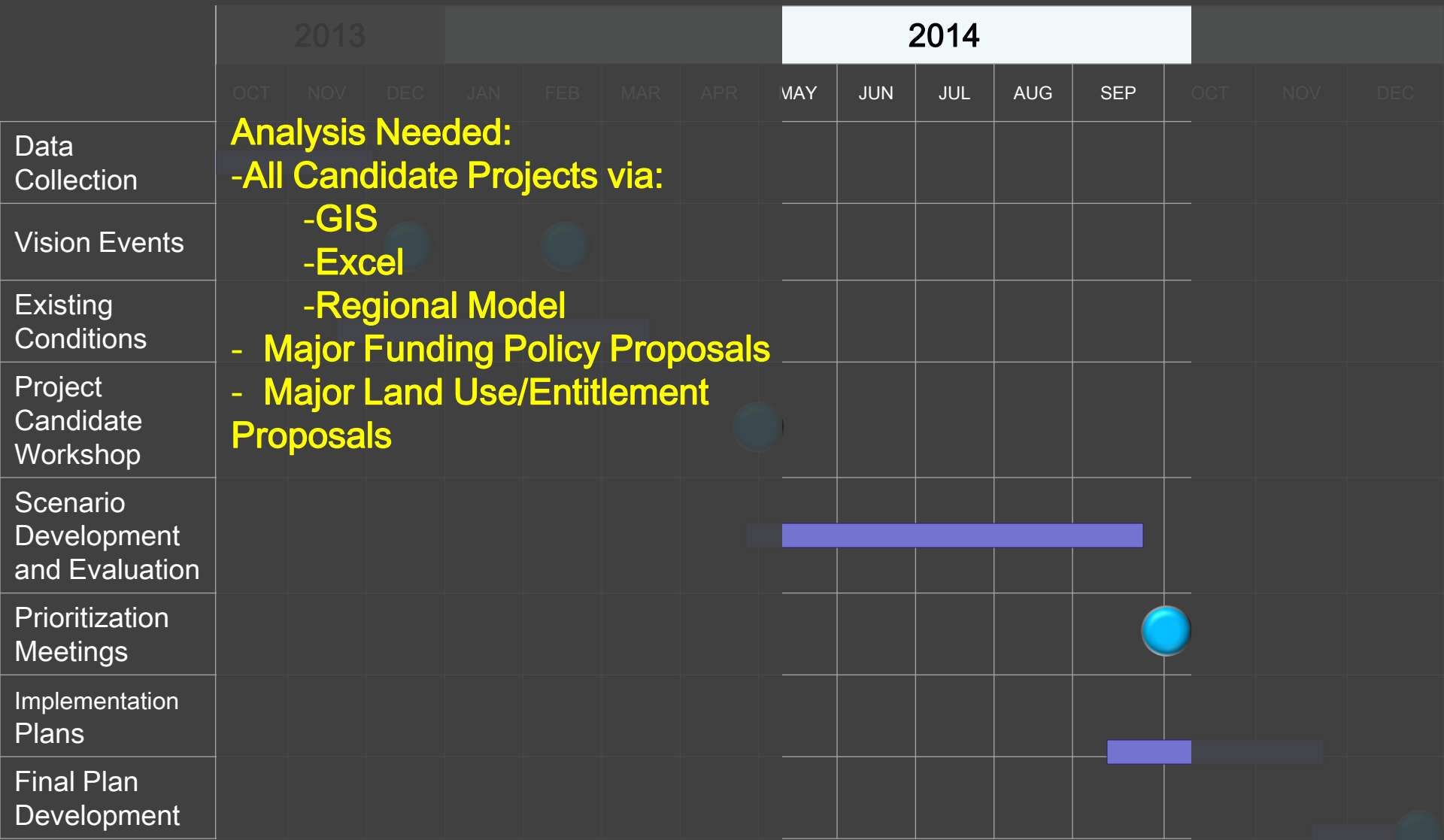
**Transportation's Impact on Climate Change**

Transportation is a major source of greenhouse gas emissions, and implementing transportation policies that reduce VMT is a key strategy for meeting Seattle's climate action goals.

# Schedule

*Ongoing Effort*

*Milestone Public Activity*





# Evaluation Criteria

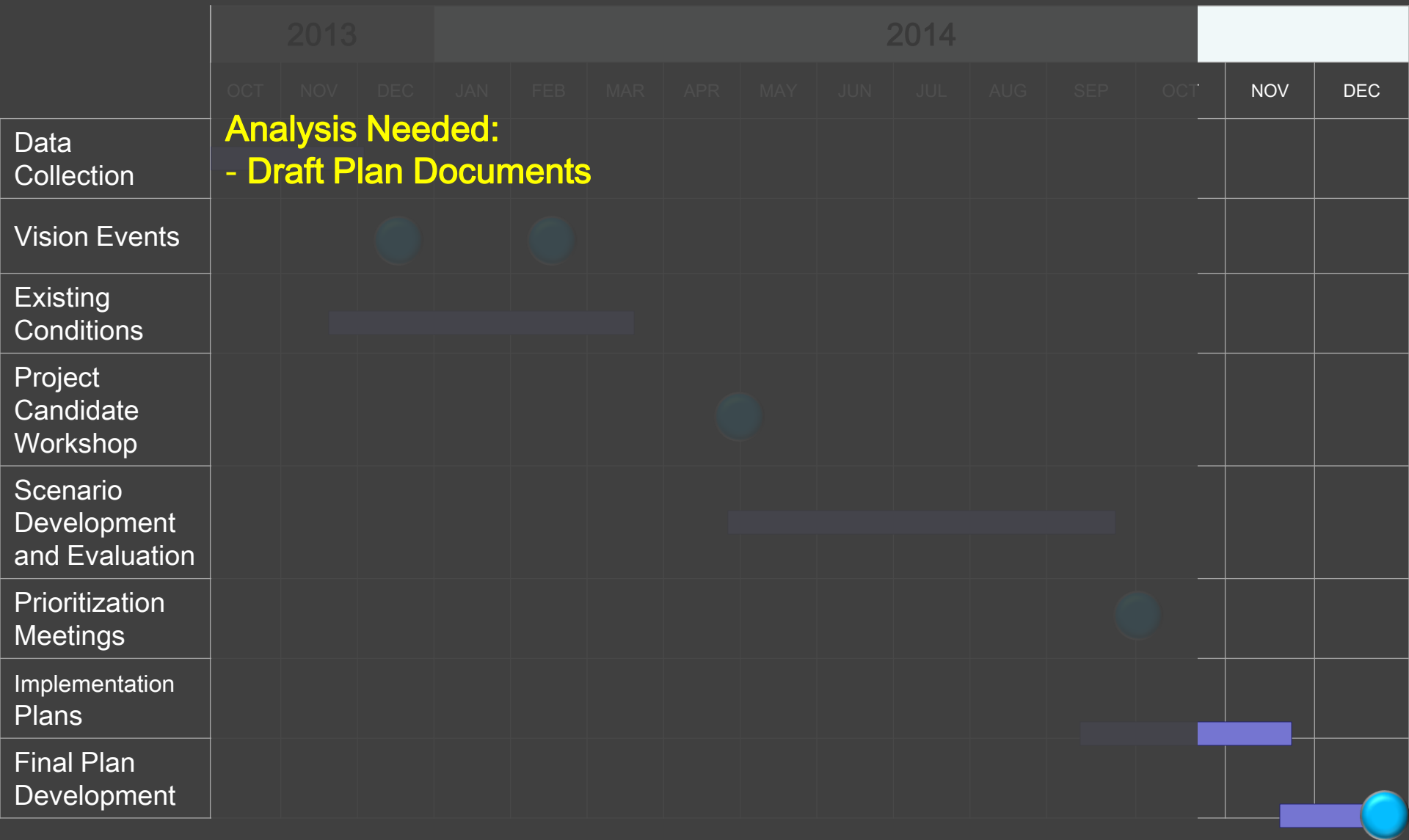
## transportation Choices

Evaluation Criteria	Tools or Techniques
System Person Capacity – Rather than simply vehicle capacity. Analyze broad corridors rather than segments or intersections.	Travel Demand Model
Travel Time	Travel Demand Model
Route Options	GIS
Project Utility – Measure the people moving function of a policy or project	Travel Demand Model
Future Density vs. Transit Service	GIS Analysis
Viability of Transit Implementation	TSUB (FTA Measure)

# Schedule



*Ongoing Effort*  
*Milestone Public Activity*





# The Role of Transportation

# What is the Purpose of Cities?

Cities are an invention to maximize exchange (goods, culture, friendship, knowledge) and to minimize travel.

The role of transport is to maximize exchange

...David Engwicht



# What Is The Purpose of Cities?



Access



Mobility

# Transportation and Economics

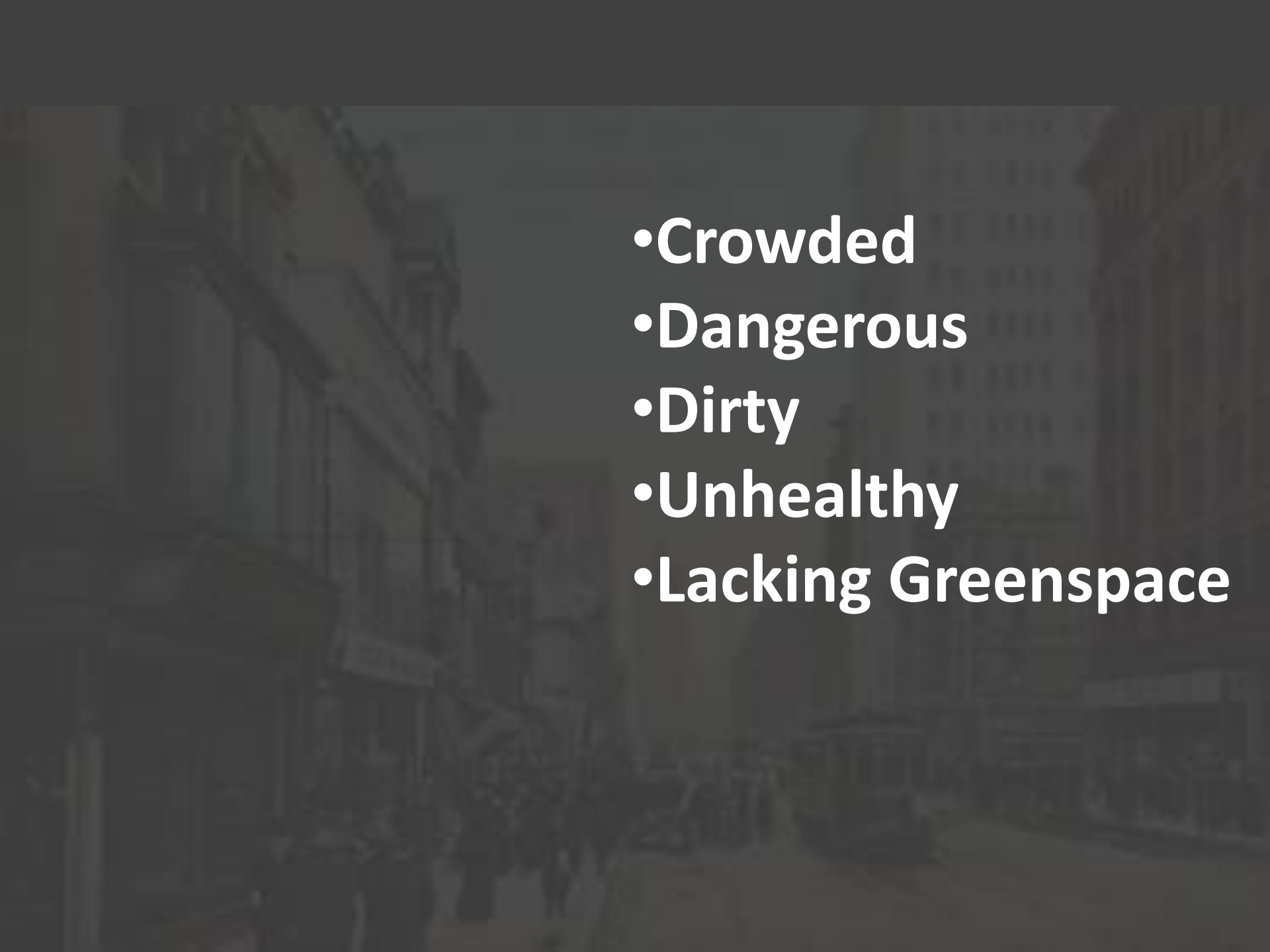
Transportation  
investments are  
powerful and far-  
reaching



# The Good Old Days

*Grand Ave. East from 5th St.,  
Milwaukee, Wis.*



- 
- **Crowded**
  - **Dangerous**
  - **Dirty**
  - **Unhealthy**
  - **Lacking Greenspace**

- Infectious diseases:

TB

Cholera

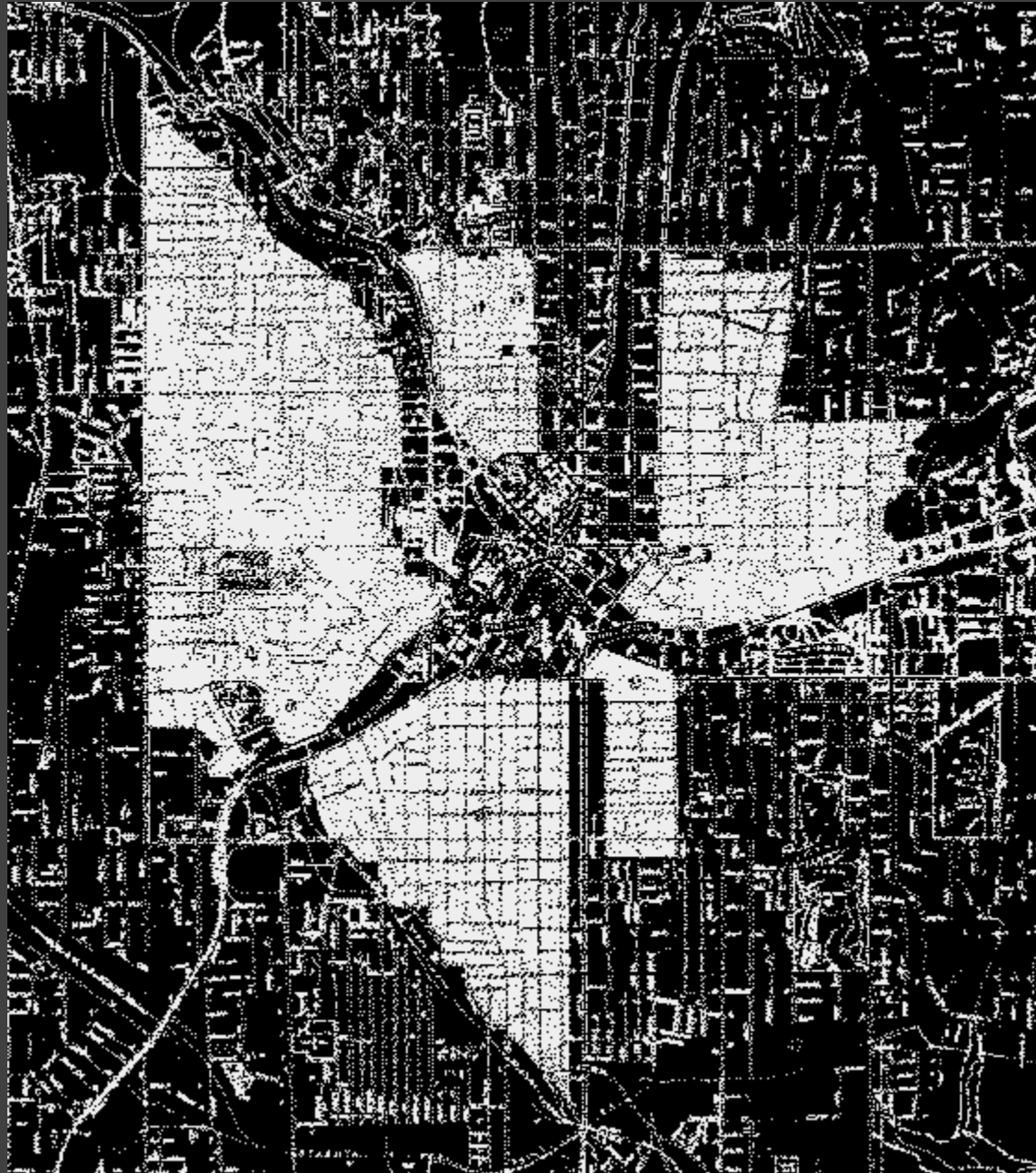
Yellow Fever

Polio

# Multi-Disciplinary Approach

1. Identify Problem
2. Formulate A Response
3. Copy The Solution

# Step 1 - Identifying Last Century's Problems



# Step 2 – Formulating A Response



**Lake View Sanatorium, Dane County**

THE  
GENERAL MOTORS  
EXHIBIT BUILDING



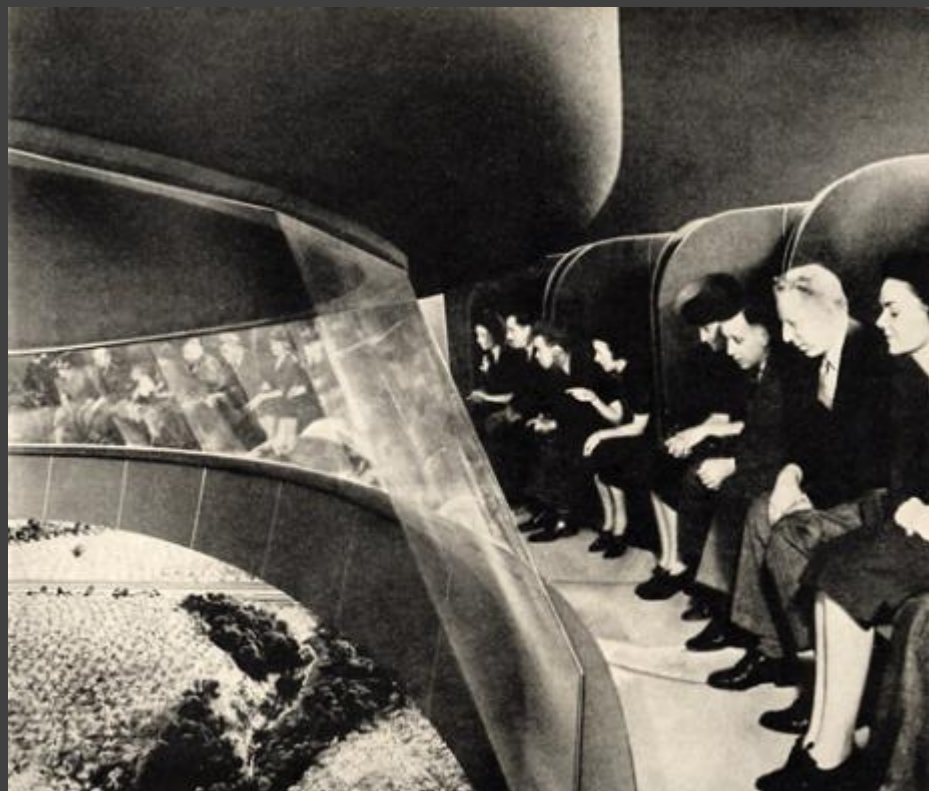
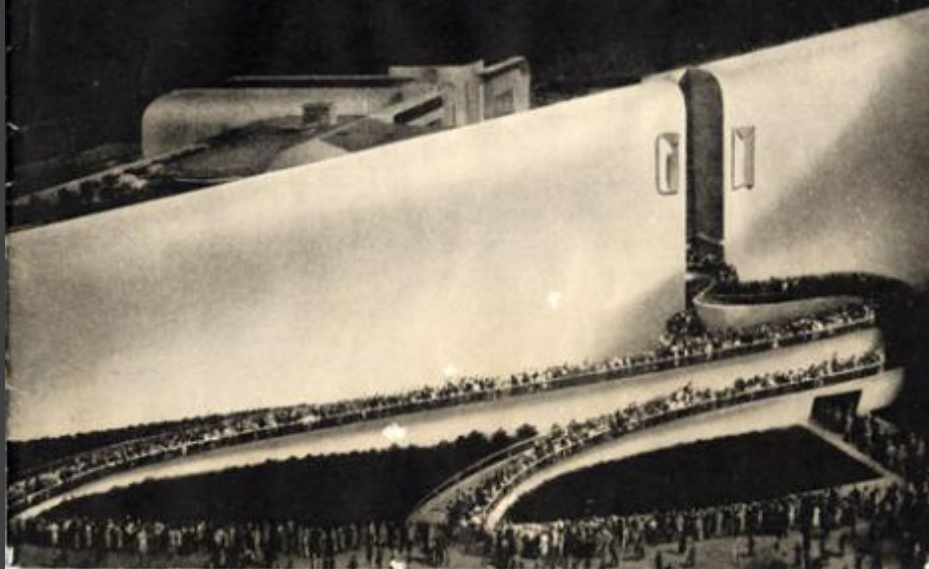
1939

*New York World's Fair*  
HIGHWAYS AND HORIZONS

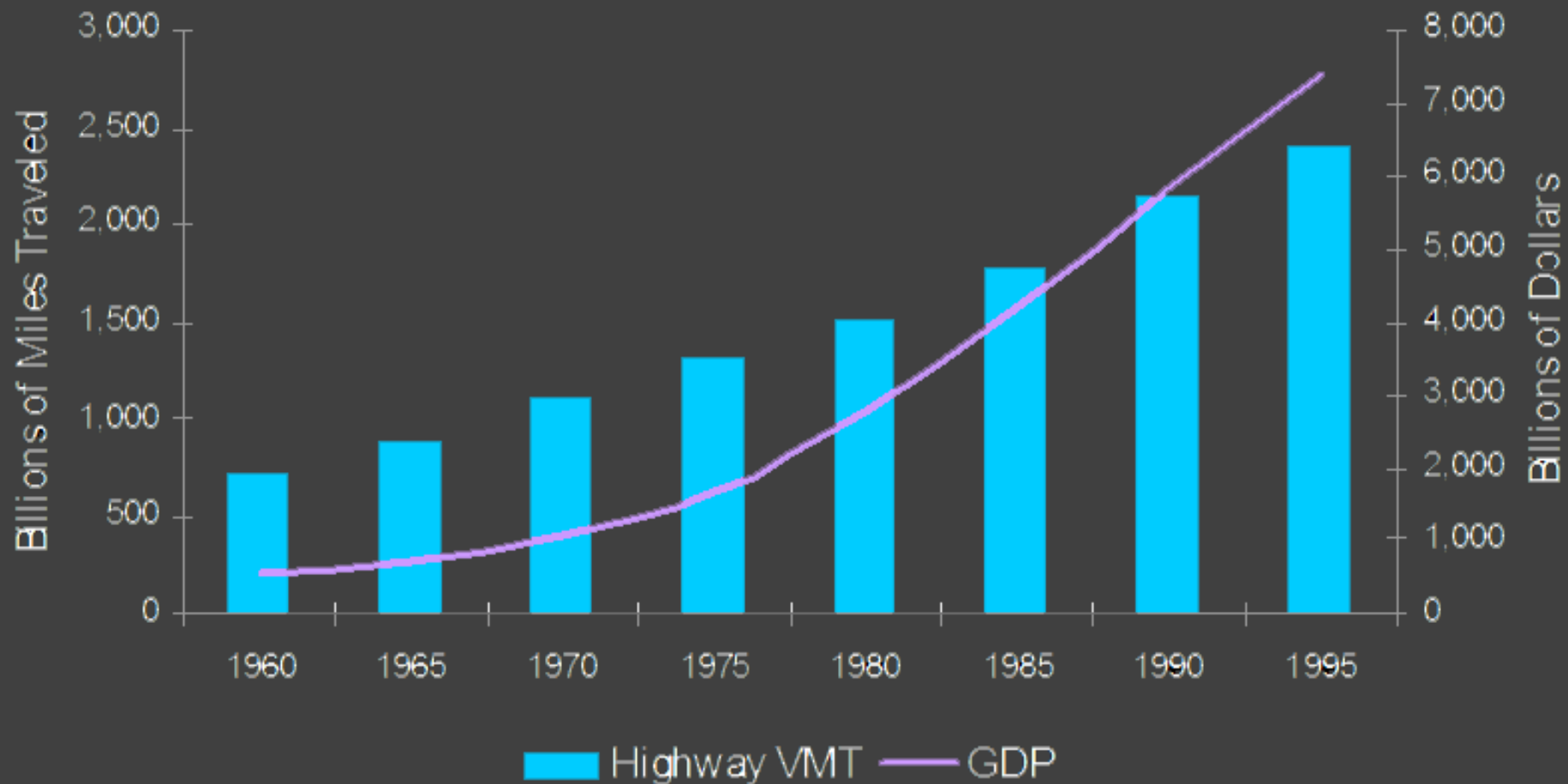


"abundant sunshine, fresh air, fine green parkways will blend together seamlessly with dazzling skyscrapers and seven-lane highways."

# FUTURAMA



Transportation improvements allow economic growth.



# Freeways Are Safe!

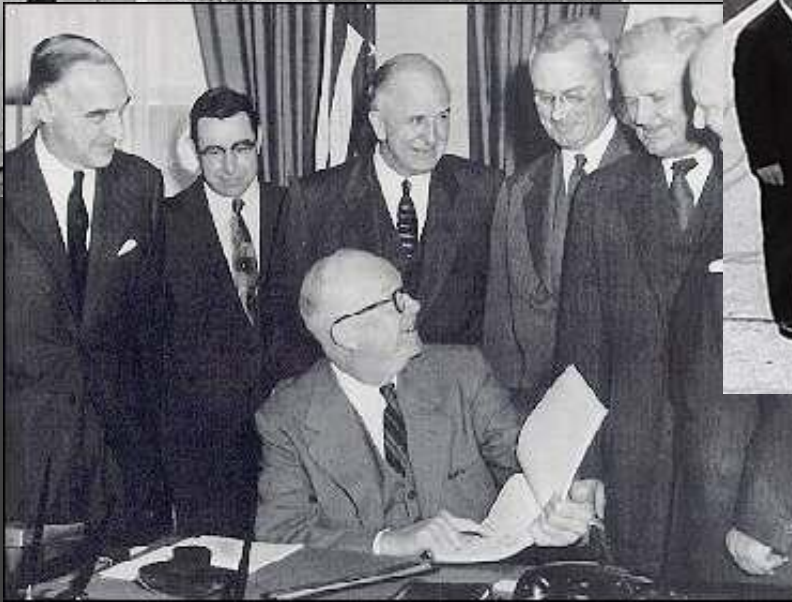
	PRINCIPAL RURAL AREAS	MINOR ARTERIAL	COLLECTOR	INTERSTATE	ALL HIGHWAYS
Vehicle Miles of Travel (Millions)	4,031.36	1,789.58	957.67	4,573.99	11,352.60
Miles of Highway	1,980.28	1,685.51	1,604.63	467.33	5,737.75
Total Collisions	3,776	2,128	1,291	2,367	9,562
Collision Rate (1)	0.94	1.19	1.35	0.52	0.84

# Step 3 – Spread The Success



# Federal Transportation Policy 1956-1982

## Federal Aid Highway Act of 1956



Unintended

Consequences

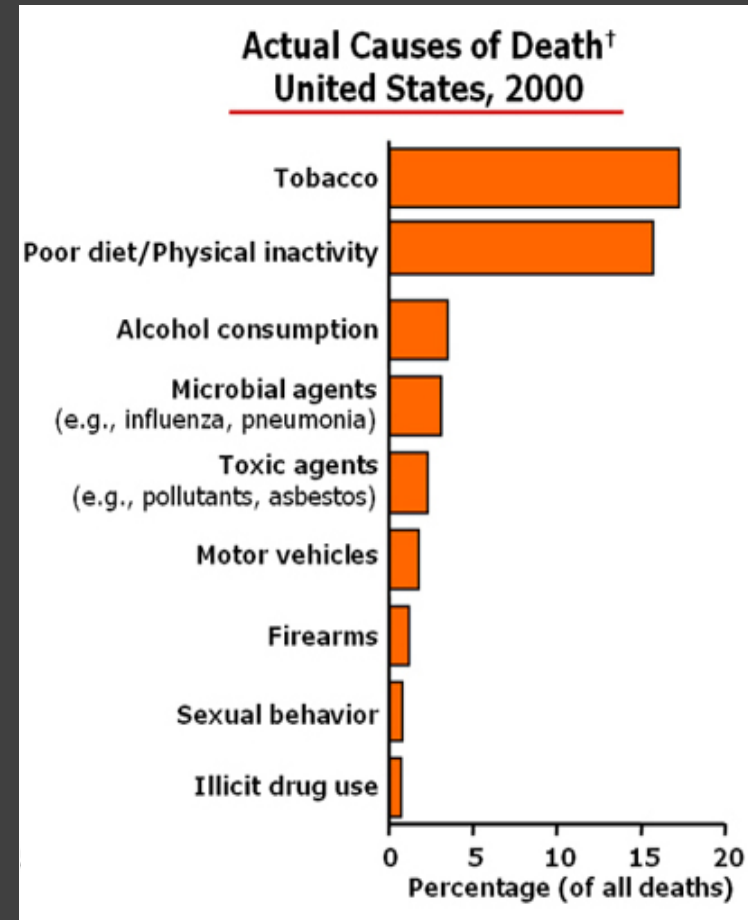


# Diseases of this Century

- Cardiovascular: Heart Attack  
Stroke
- Respiratory: Asthma  
Emphysema
- Weight Related: Diabetes II  
Heart Disease
- Environmental: Cancer & other  
“chronic” diseases



Health Issue	Transportation Cause
Physical Safety	
Car Collisions	Speed
Physical Health	
Obesity	Inactivity
Asthma	Vehicle Emissions
Mental Health	Stress
Clean Water	Vehicle Waste



*Environmental factors influence 85 out of the 102 categories of diseases and injuries listed in The World Health Report.*

# Copying Success, Ignoring Context



To facilitate travel over longer distances!





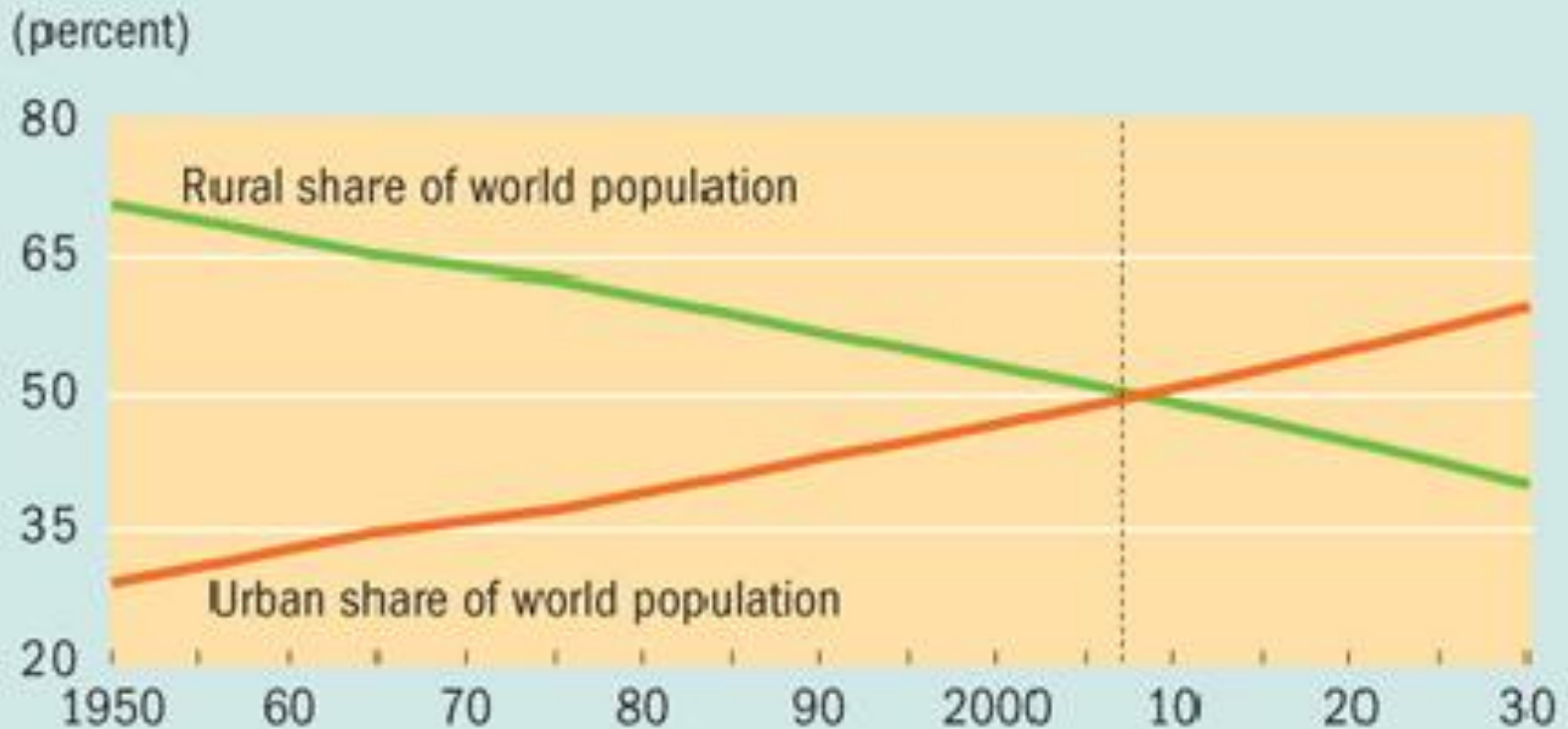




# Results Over the Last 50-Years

- 1) Vehicle Miles of Travel (VMT) Growing Faster Than Population Growth
- 2) Longer Commute Times
- 3) Decreased Transit Ridership

# Today's Issues – Urban Choice



Source: United Nations, Department of Economic and Social Affairs, Population Division, *World Population Prospects: The 2006 Revision* (2007).

# Today's Issues - Health



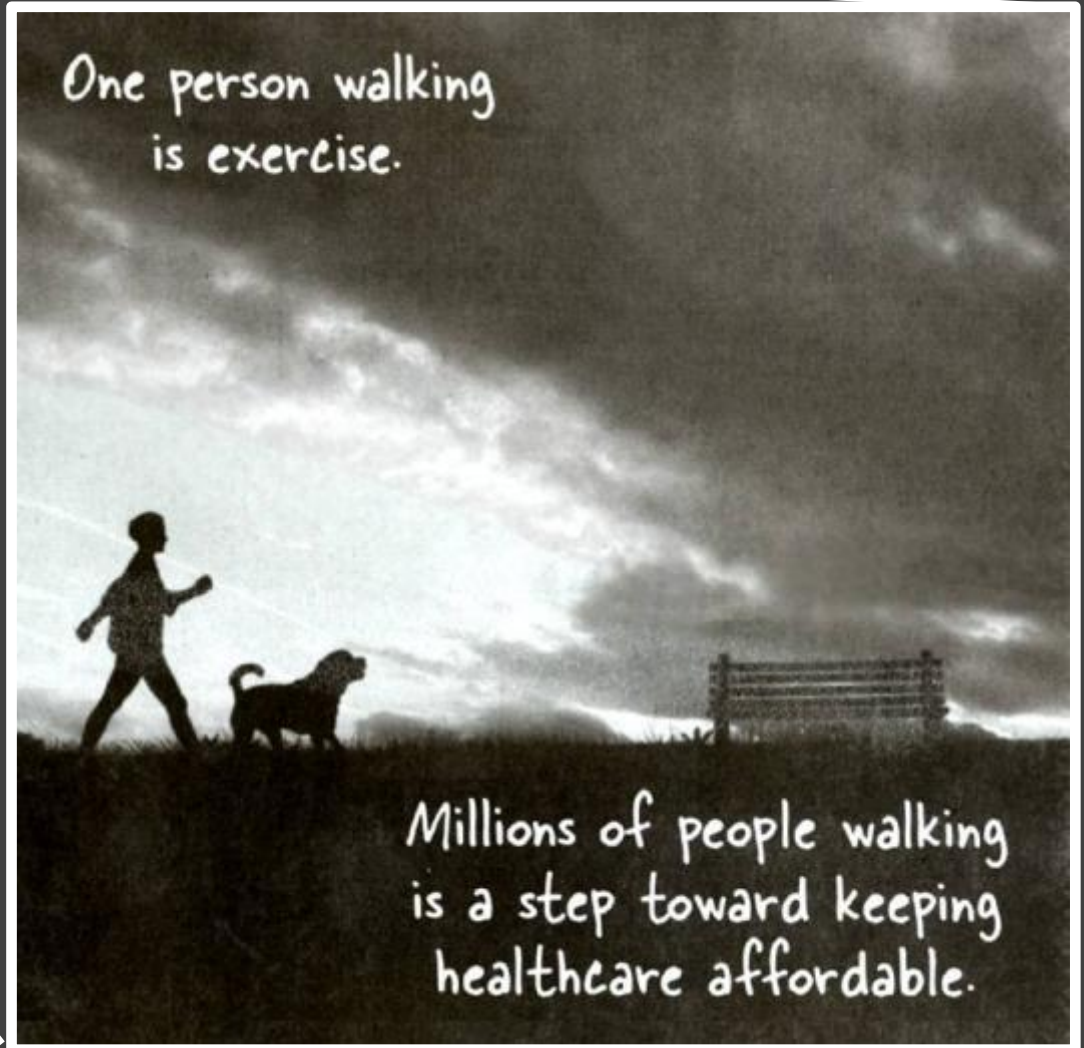
One person walking  
is exercise.

Millions of people walking  
is a step toward keeping  
healthcare affordable.

The stress and chronic diseases resulting from inactive lifestyles cost as much as \$77 billion a year to treat. That's why Blue Cross and Blue Shield of Michigan are launching **Walking Works™**, an unprecedented effort to work with employers to help Americans add physical activity to their daily routines. It's one of the many ways we're doing our part to control rising healthcare costs. For more information, visit our web site at [www.bcbm.com](http://www.bcbm.com).

**Healthcare. Affordable. Now.**

**Blue Cross Blue Shield of Michigan**  
An Association of Equal Opportunity  
Diversity and Inclusion: Making a Difference



One person walking  
is exercise.

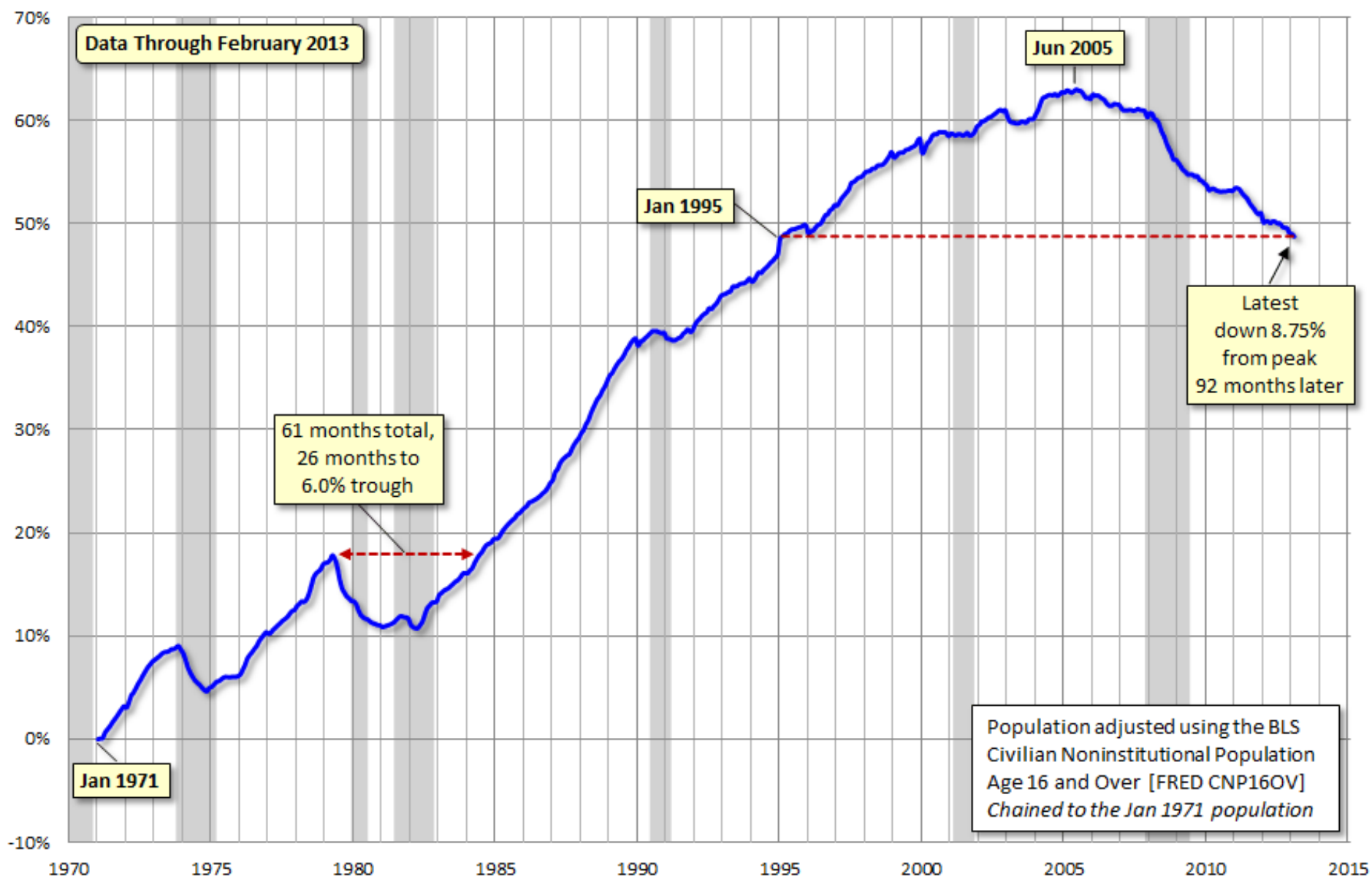
Millions of people walking  
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# Estimated Vehicle Miles Driven on All Roads

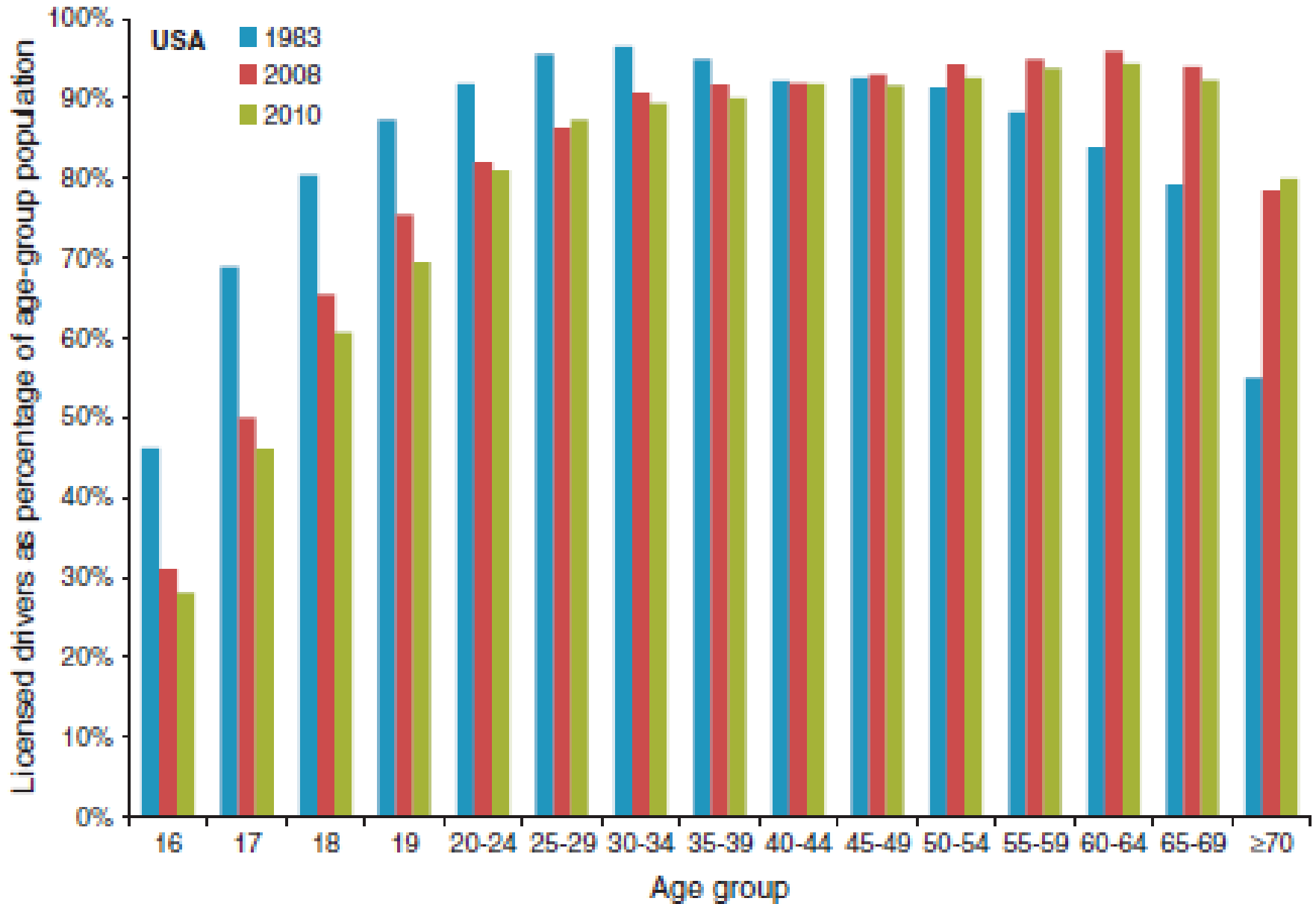
dshort.com

April 2013

Recessions    Population-Adjusted Cumulative Growth    Current Level



# US Licensed Drivers By Age Group



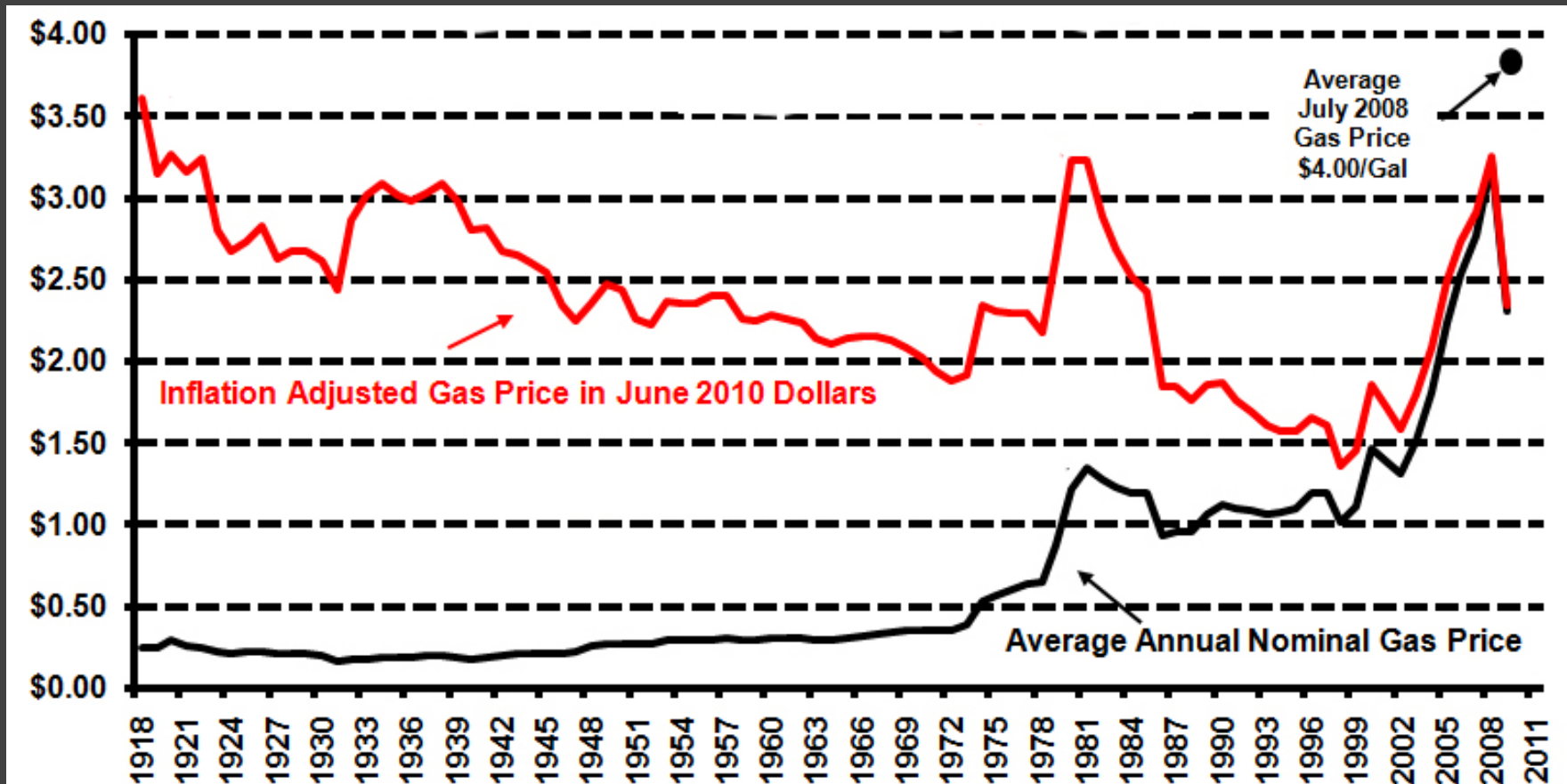
# Housing Stock

<u>Household Type</u>	<u>1960</u>	<u>2000</u>	<u>2040</u>
HH w/Children	50%	32%	27%
HH w/o Children	50%	68%	73%

Dane County = 71% Households Without Children

*Source: Dr. Arthur C. Nelson, University of Utah*

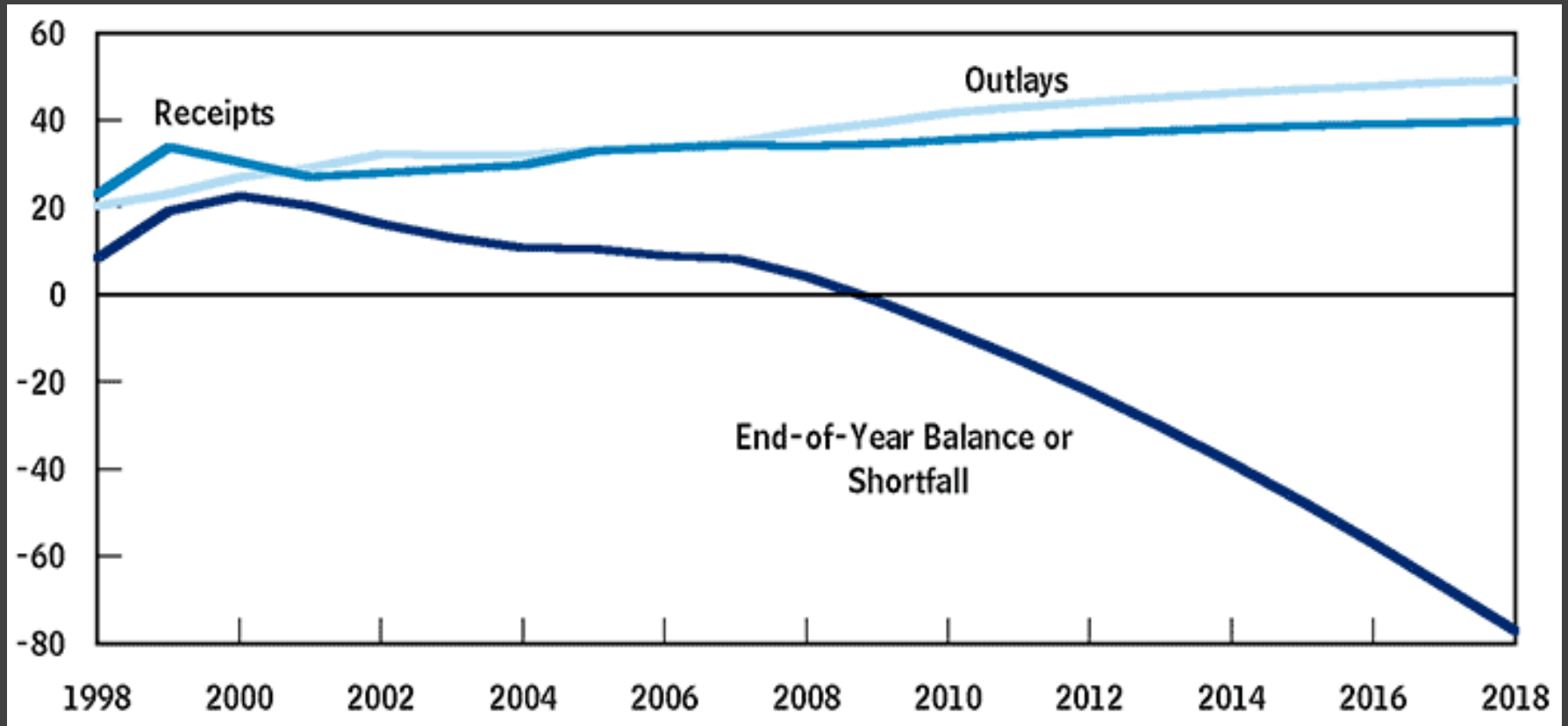
# Today's Issues - Energy



Note: Prices are Average Annual prices not Peak Prices so peaks are smoothed out considerably

Source of Data: US Energy Information Administration  
CPI-U Inflation index- [www.bls.gov](http://www.bls.gov)

# Today's Issues - Finance

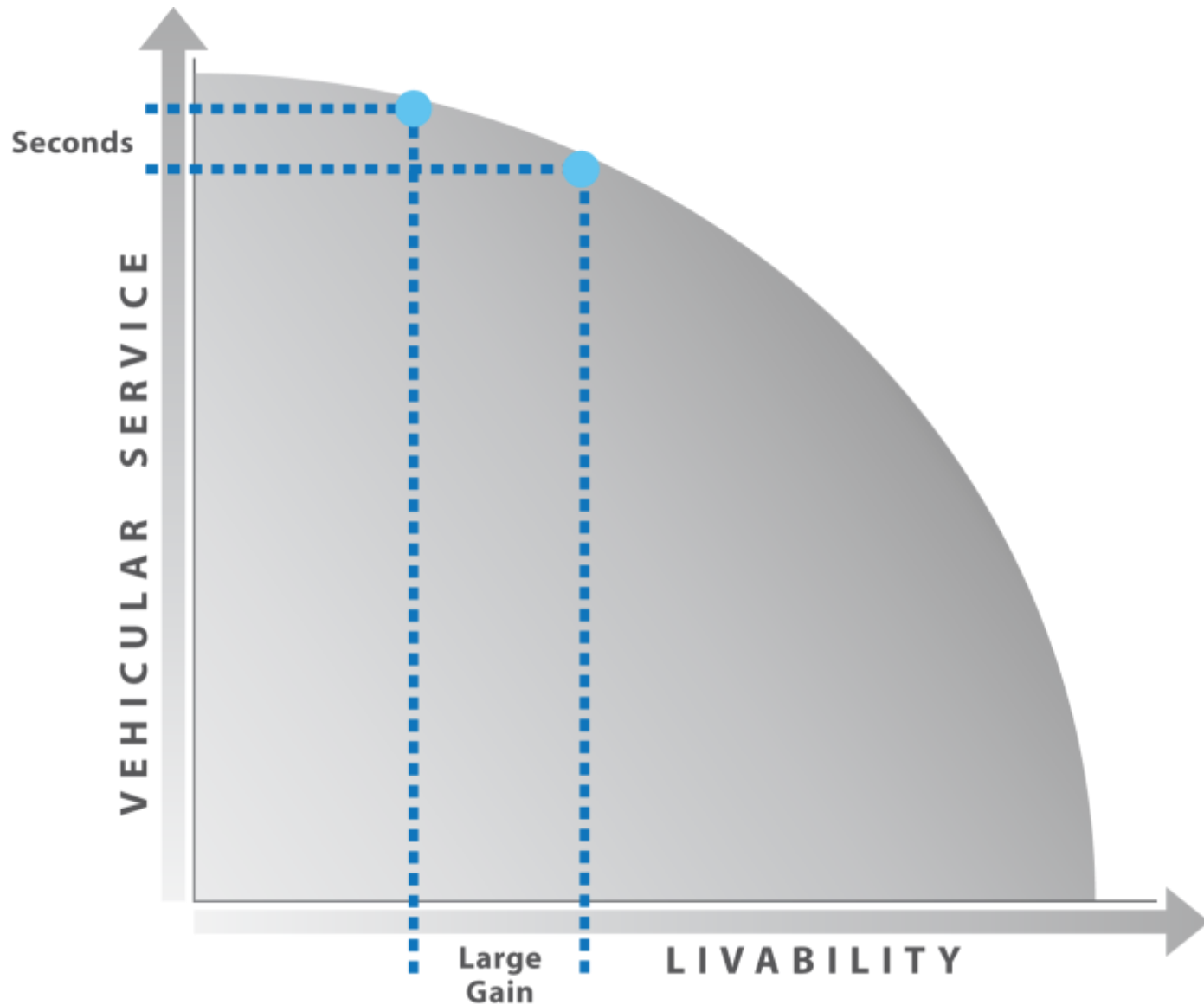


# A Strategic Plan

“A good hockey player plays where the puck is.  
A great hockey player plays where the puck is  
going to be.”

*Wayne Gretzky*

# Striking A Balance



Move  
**Differently**

# Travel Modes

	Drive Alone	Carpool	Transit	Walk/ Bike
Madison Region	<b>73.9%</b>	<b>9.0%</b>	<b>4.1%</b>	<b>12.9%</b>
City of Madison	<b>62.1%</b>	<b>9.6%</b>	<b>8.6%</b>	<b>19.7%</b>
Downtown and University workers (commuting in)				

*Source: US Census, American Community Survey*

# Transit Commitment - Charlotte



- \$8.9 Billion Investment In Transit
- Over \$1 Billion in Private Investment Before Opening

# Transit Commitment – Salt Lake



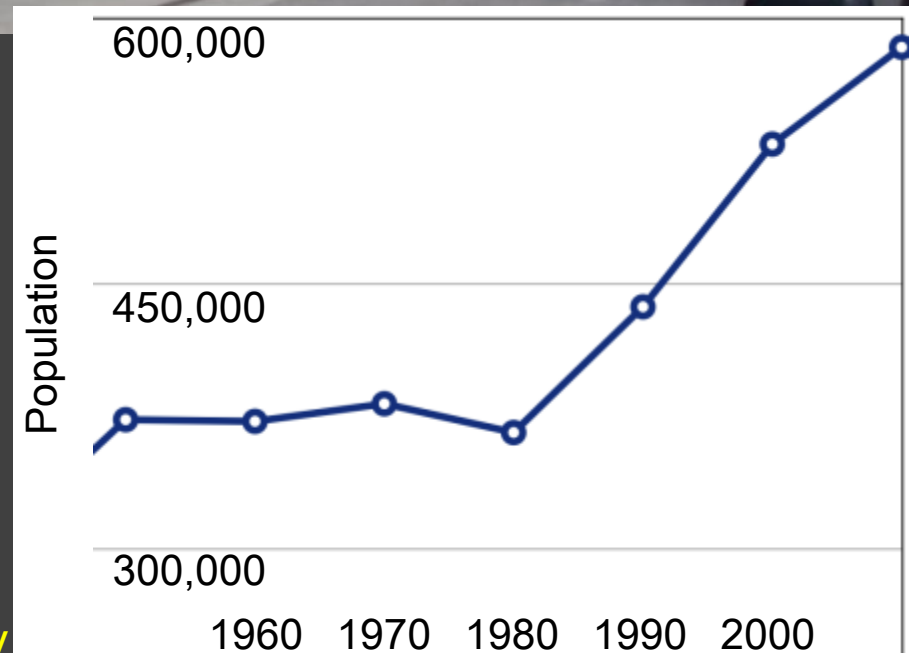
SLC tops the US in transit  
connecting people and jobs

# Transit Commitment - Denver



**\$6.1 Billion Investment In 122 Miles of Transit**

# Transit Commitment - Portland



**\$2.6 Billion Added to Local Economy By  
Getting Citizens to Drive 4 Less Miles Per Day**

# MBTA Key Bus Routes

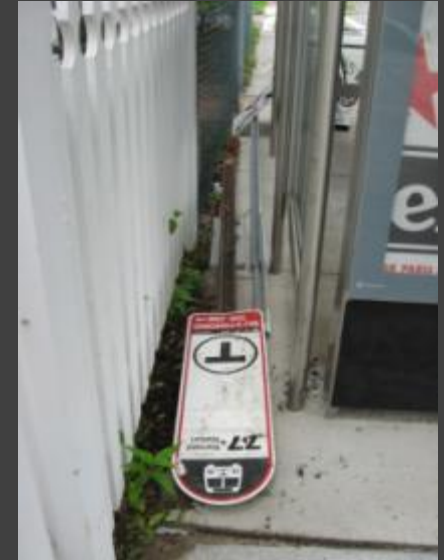


- \$10 million ARRA funds
- MBTA's 15 highest ridership bus routes
- Capital Improvements

# Existing Conditions



Bus stops too close



Signage issues



Poorly located  
boarding area

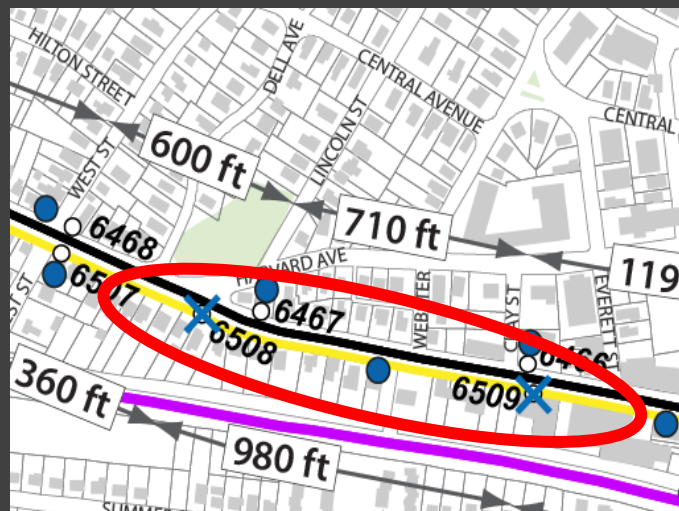


Bus stop too short



Lack of accessibility

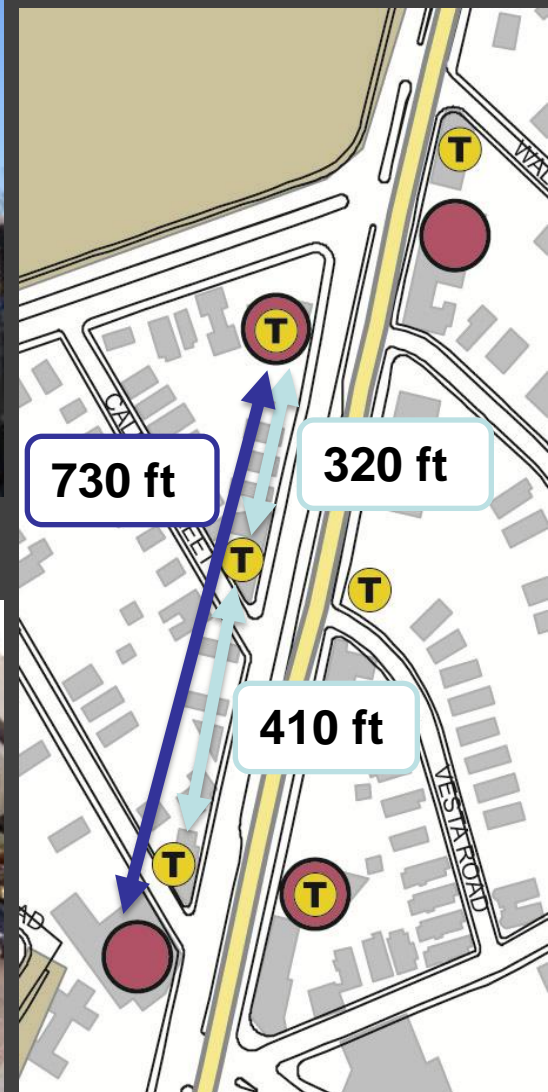
# Typical Improvements



Stop Consolidation



Signal Improvements



Spacing



Curb Extensions

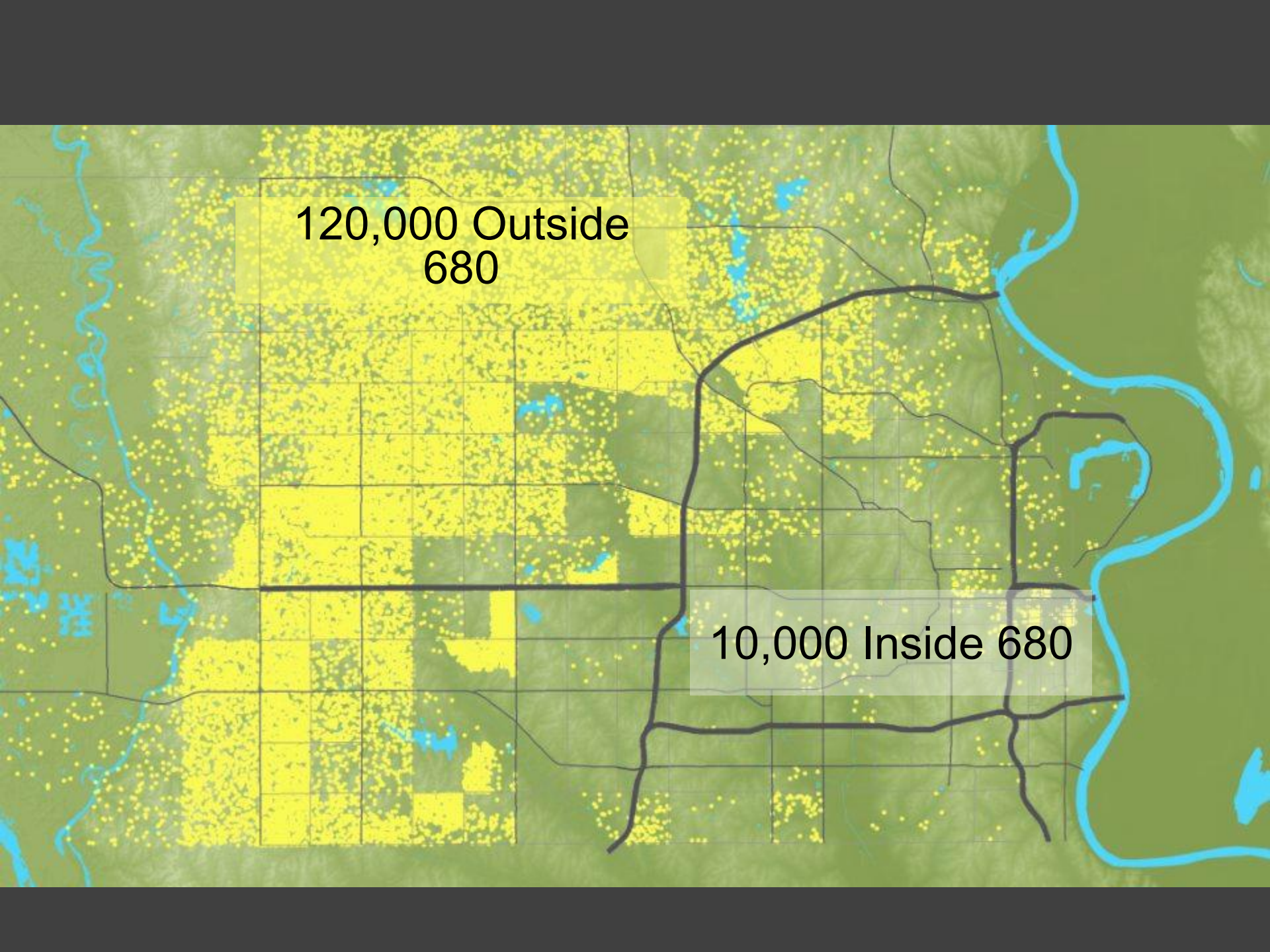


Improved Amenities





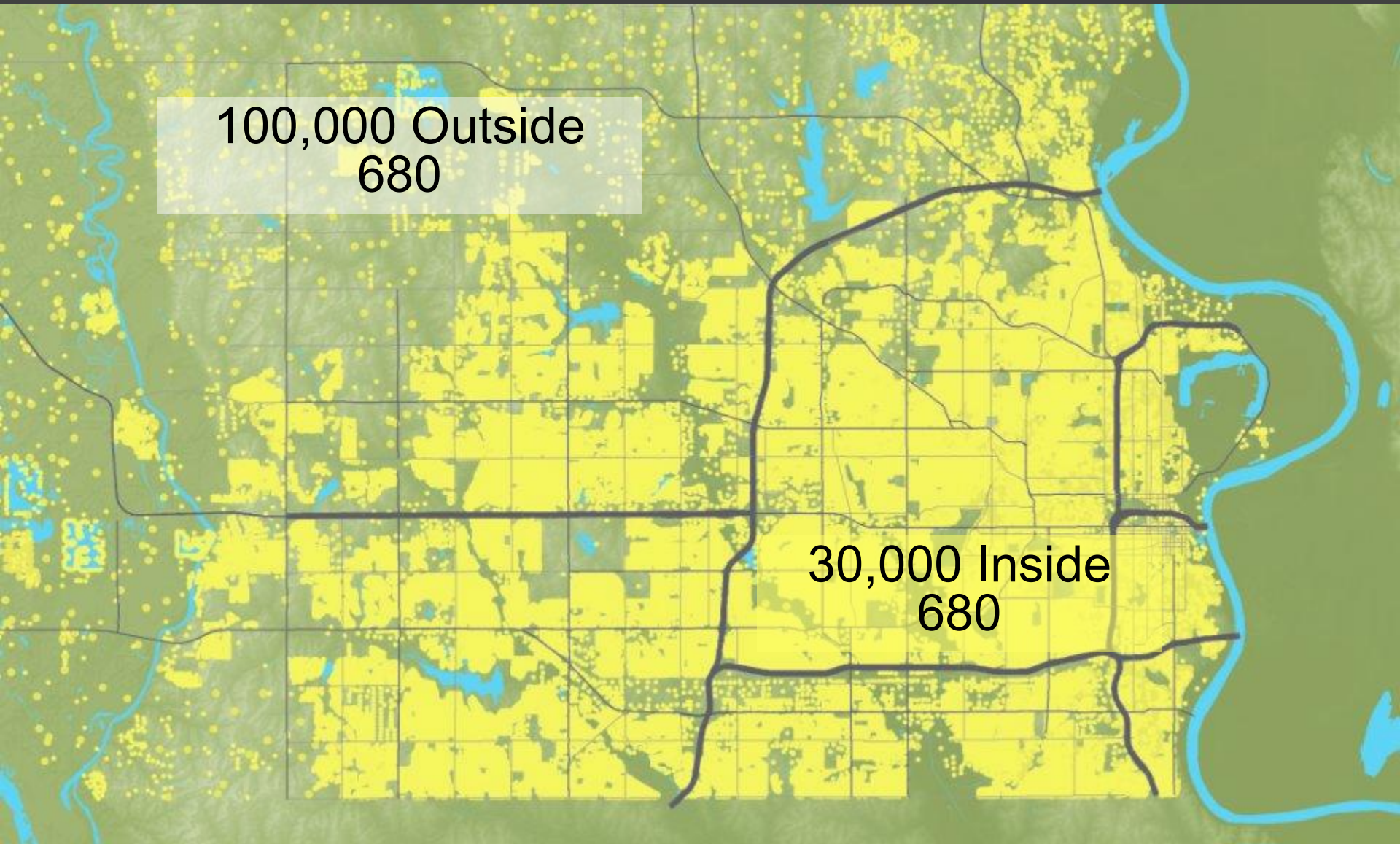
Grow  
**Differently**



120,000 Outside  
680

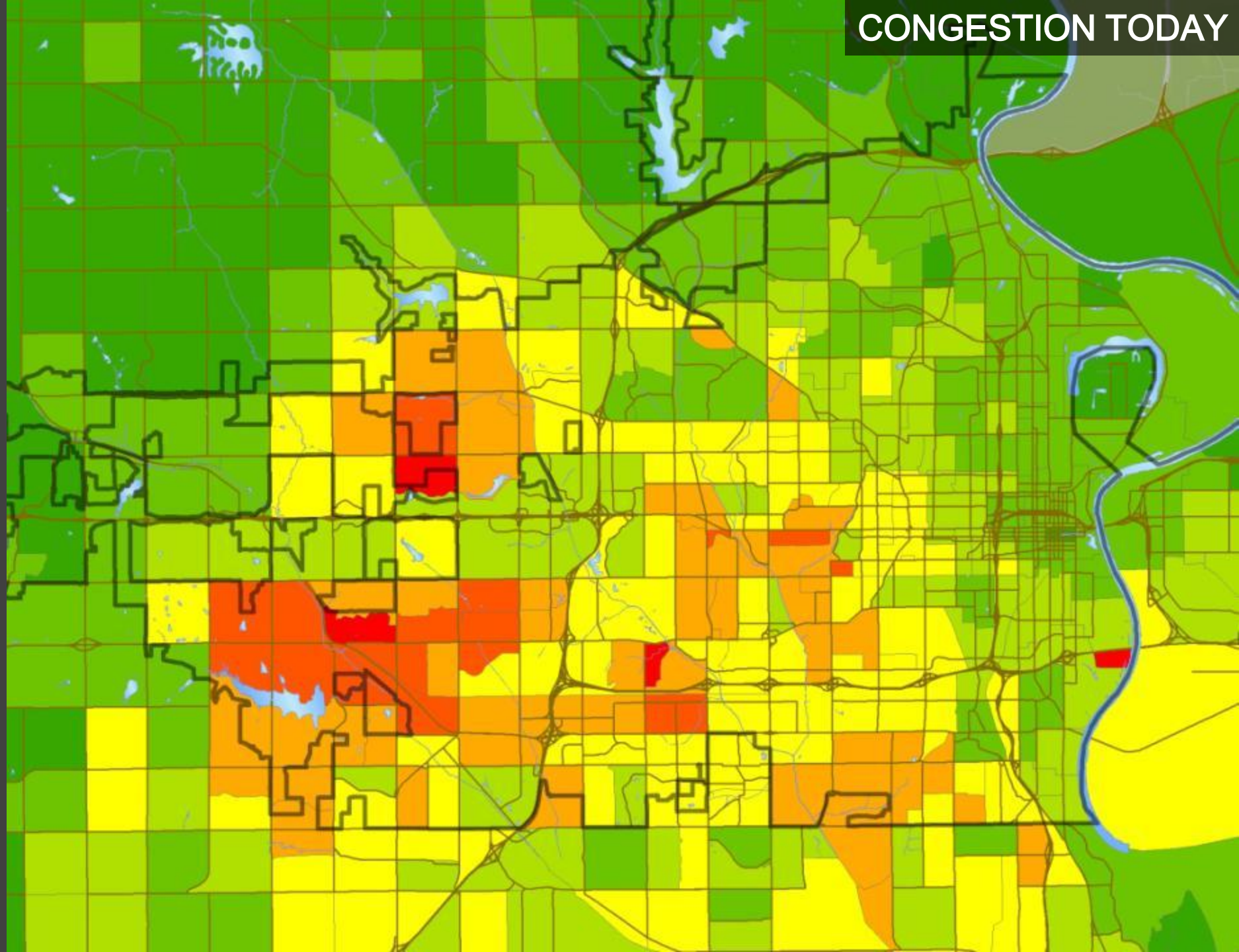
10,000 Inside 680

# 2035 Greater Infill Focus



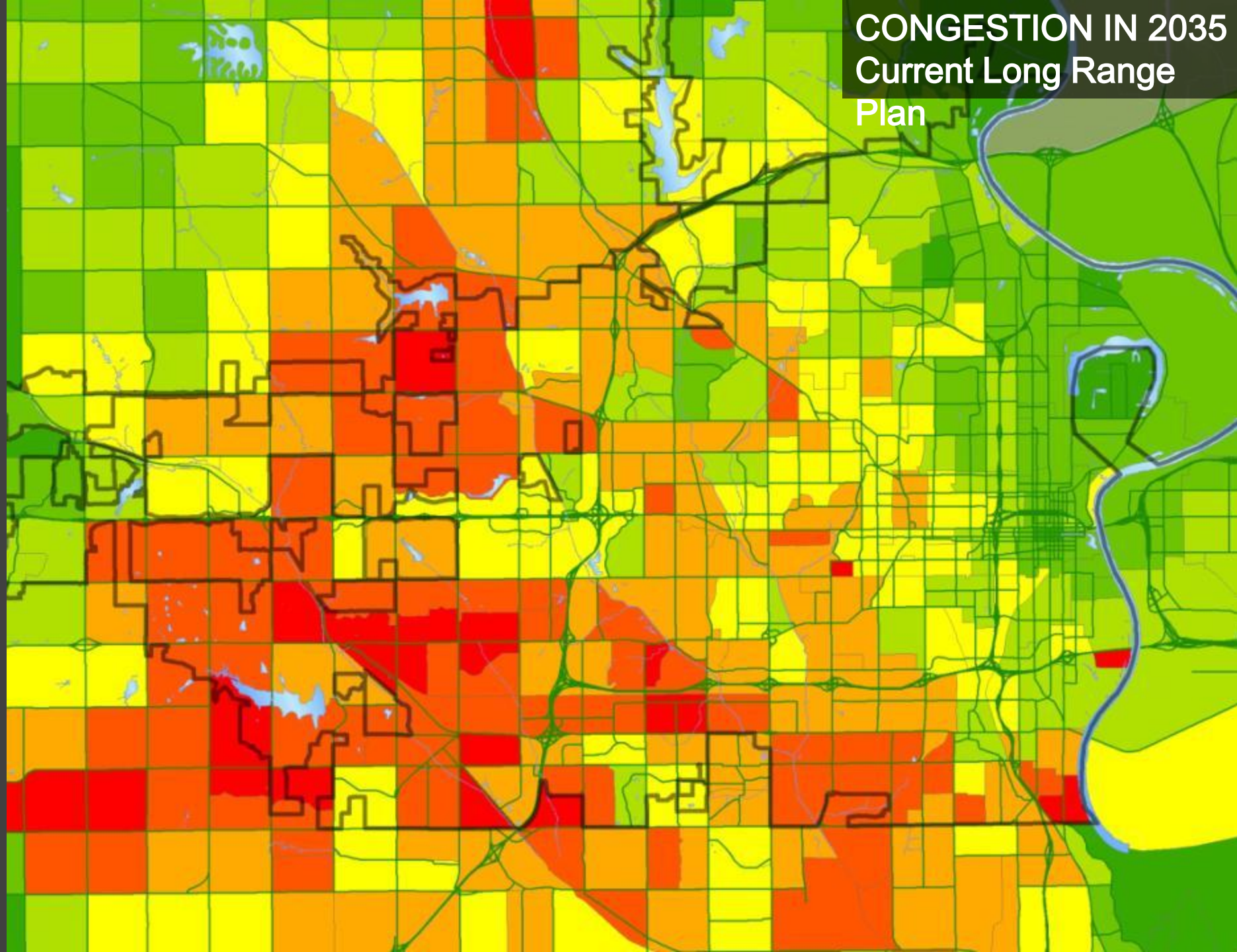
Additional 20,000 Stay Outside 680, But Move Closer In

# CONGESTION TODAY

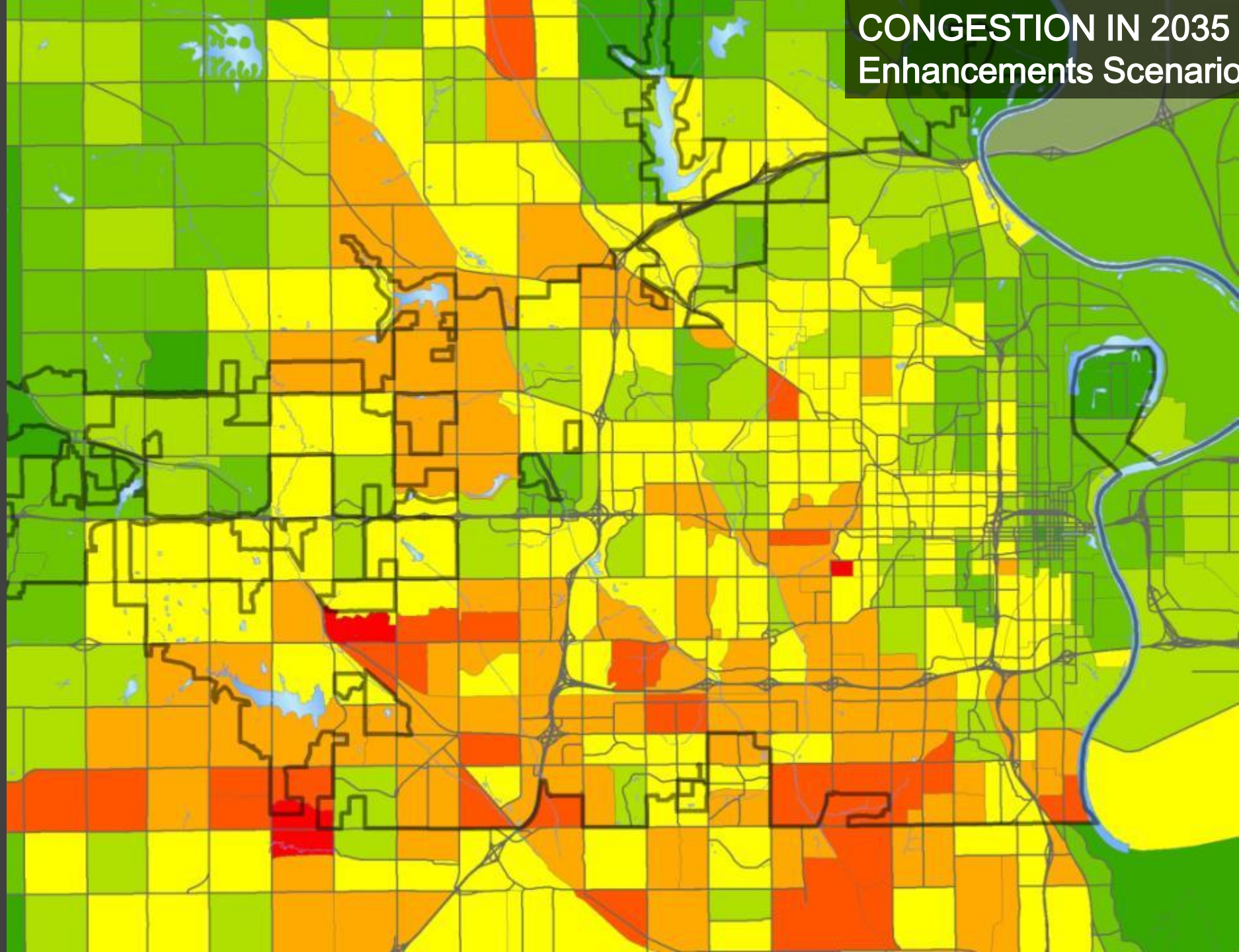


# CONGESTION IN 2035

## Current Long Range Plan

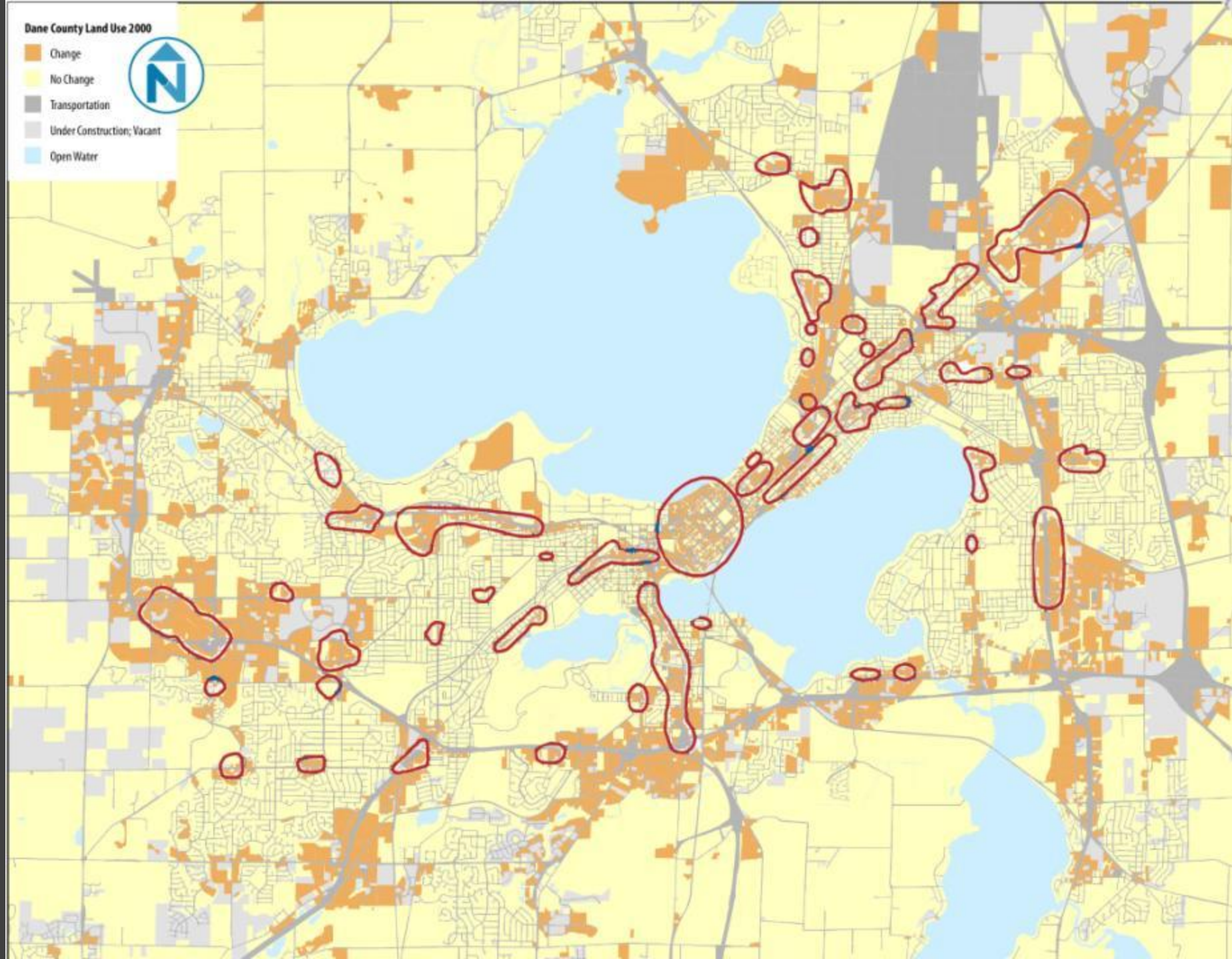


# CONGESTION IN 2035 Enhancements Scenario



Dane County Land Use 2000

- Change
- No Change
- Transportation
- Under Construction; Vacant
- Open Water



# University Avenue









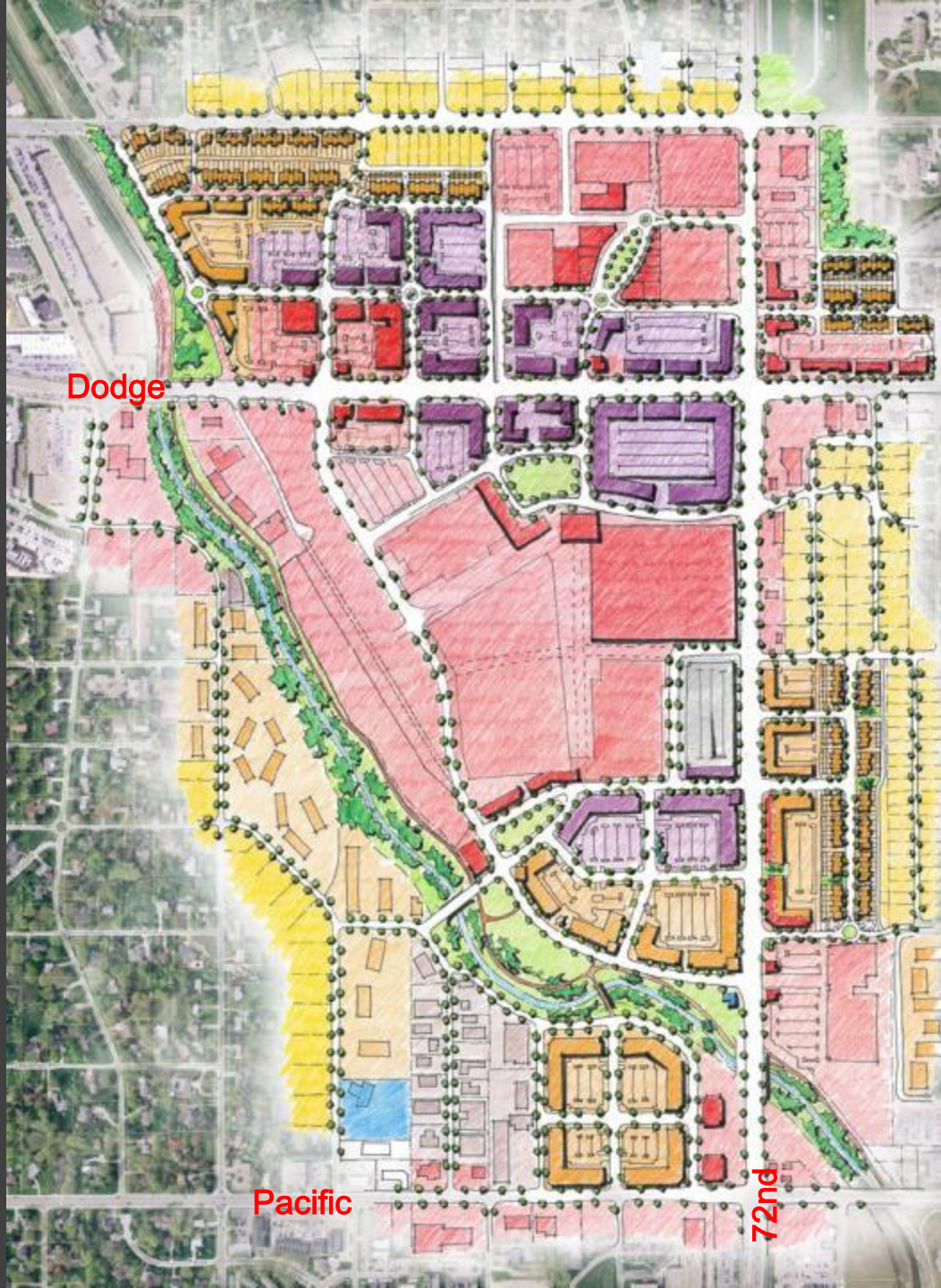
WINTER PARK MALL



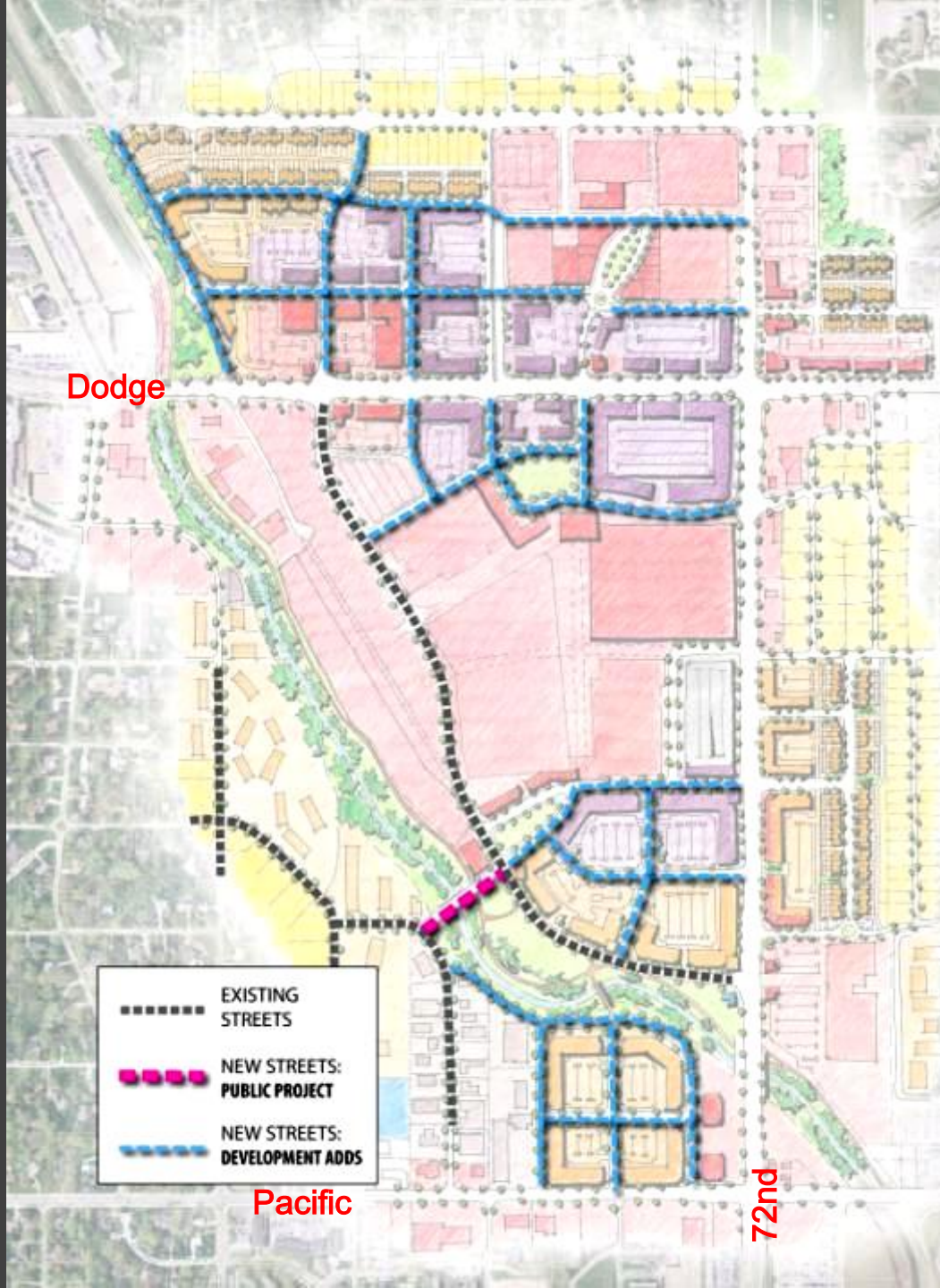




Redevelopment sites add  
network



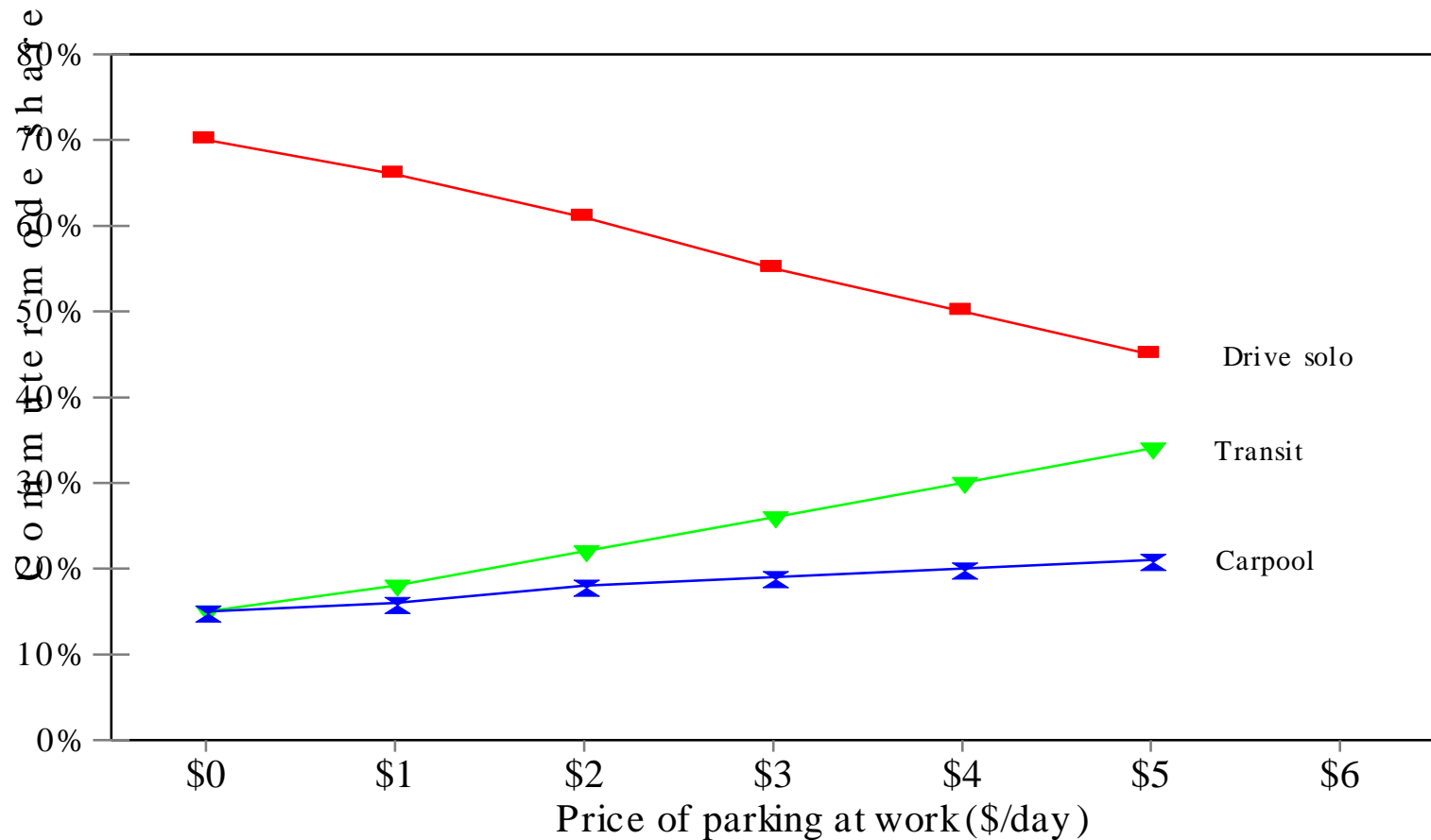
Redevelopment sites add network



Spend  
**Effectively**

# Parking Prices Affect Mode Choices

## For Commuters to Downtown Los Angeles



Source: Estimated from Willson (1991)

# New Revenue Approaches

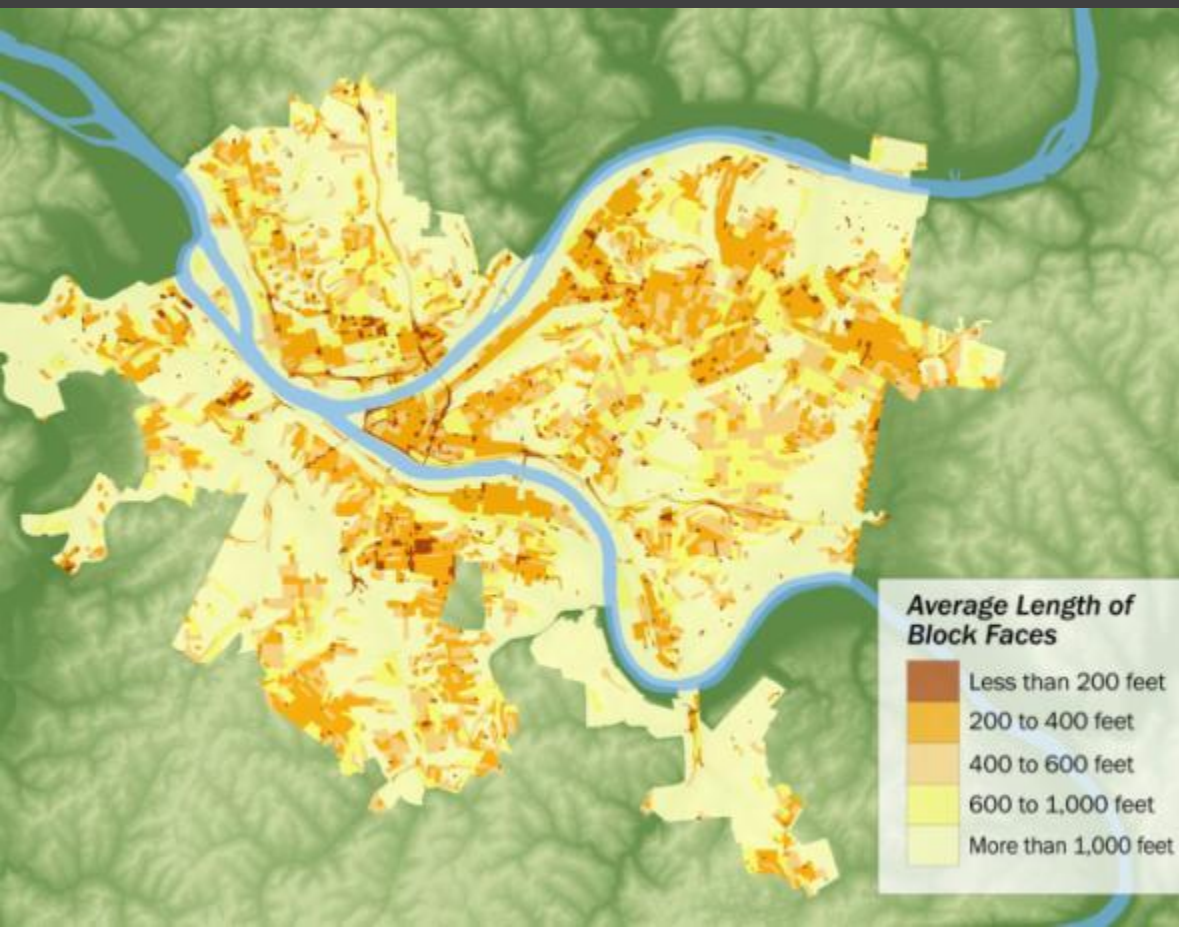
- Vehicle Miles Traveled (VMT) Tax
- Environmental (Carbon) Taxes
- Distance or Damage/Weight Tax
- Value Pricing (Tolls/Congestion)
- Development Impact Fees
- Parking Taxes



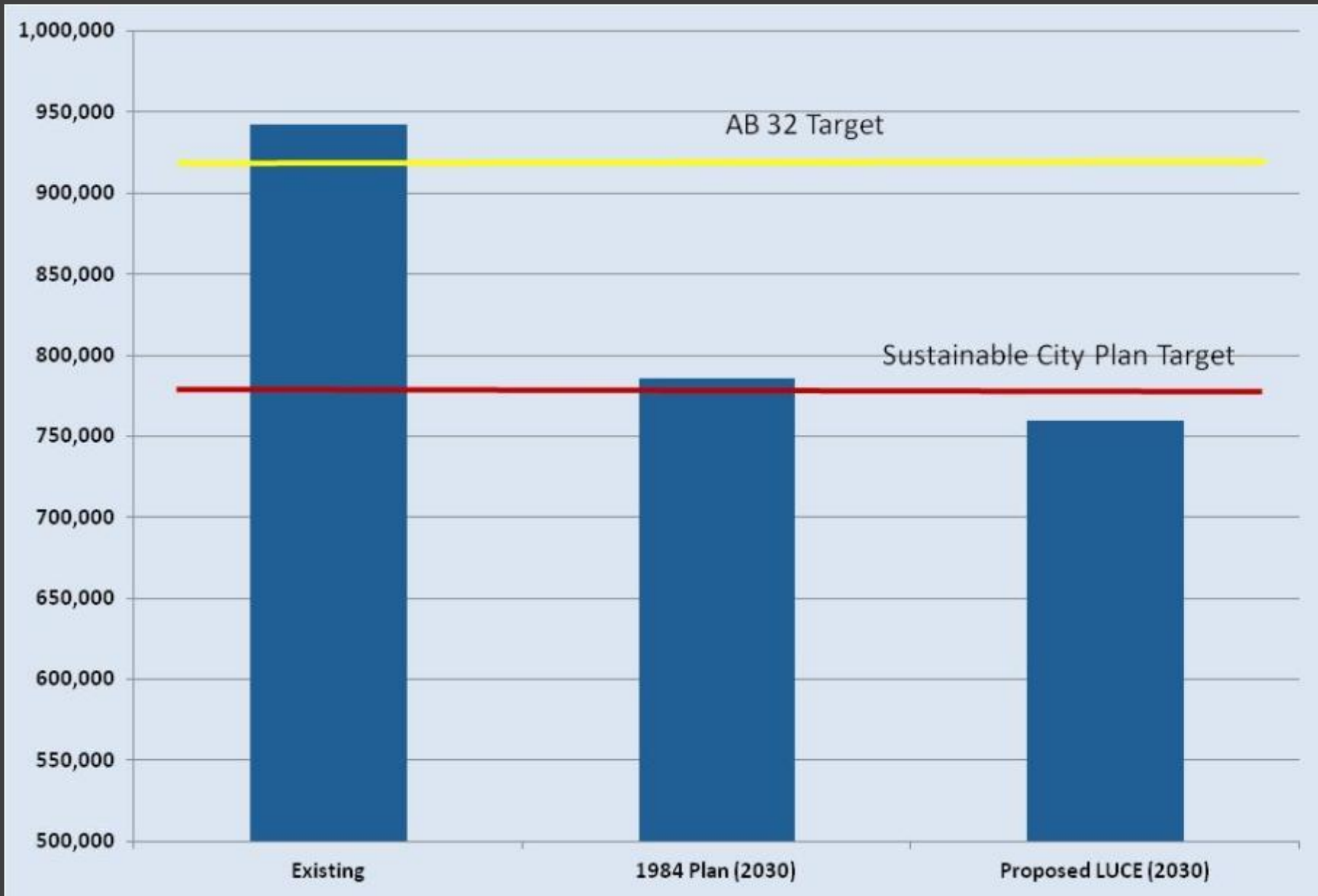
Measure

Progress

# Performance Standards



# Greenhouse Gas Emissions



We can do  
nothing and  
just take our  
chances...

...or we can  
choose now  
to plan for  
change.



# Discussion – Project Goals

- provide **Mobility Choices**
- protect **Safety and Health**
- assure **Equity for All System Users**
- maintain **Fiscal Responsibility**
- promote **Beneficial Growth**
- assure **Environmental Sustainability**
- enhance **Neighborhoods**

# Schedule

*Ongoing Effort*  
*Milestone Public Activity*

