

# Planning and Urban Design for Tysons Corner

Workshop Dry Run February 2008



Submitted to:



Fairfax County, Virginia

Submitted by:



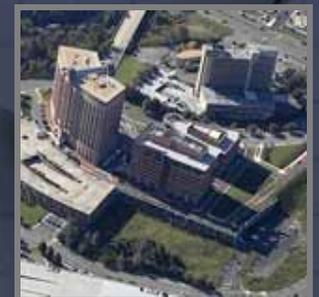
McLarand Vasquez Emsiek & Partners, Inc.

Presentation

# Overview

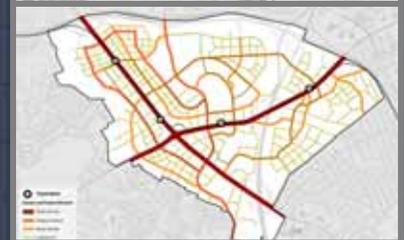
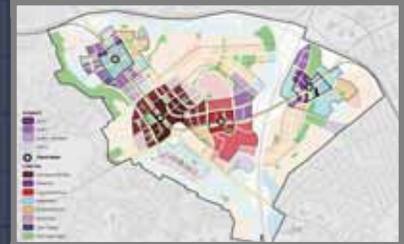
- Status report on Prototypes
- Building the Prototypes
- Understanding the Prototypes
- How they perform
- Next steps

Analysis is 95% complete



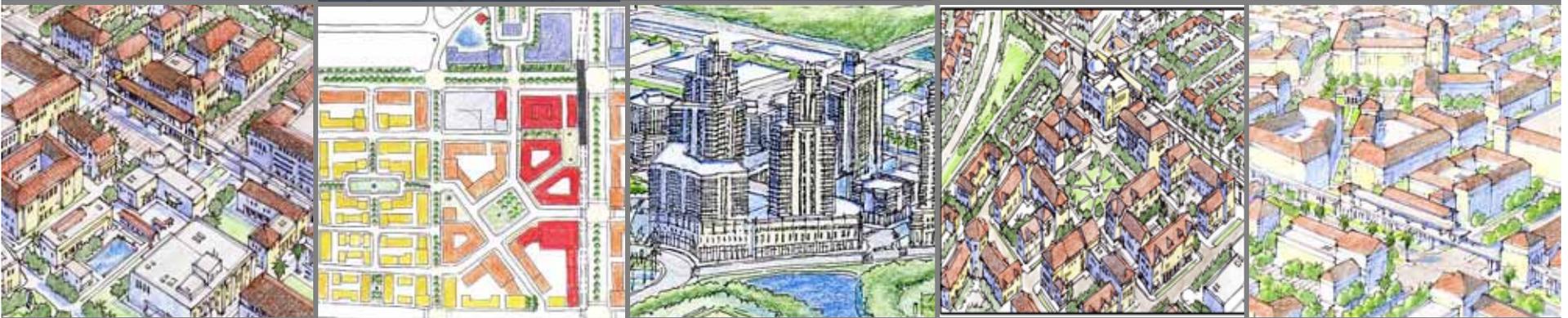
# Preview of Findings

- Alternative ways to grow Tysons, focused on transit with more community benefits
- Compared two prototypes to the comprehensive plan
- Prototypes grow Tysons between 120 & 190% over the plan
- Result is:
  - more growth
  - more community benefits
  - less congestion



# Path to 21st Century Tysons

- Task Force Principles set the direction
  - Focus growth within Tysons & around transit
  - Mix of uses for an active 24-hour place
  - Increase connectivity & walkability
  - Preserve & enhance natural features



# The Overall Process

Community Dialogues Stakeholder interviews



Six planning workshops - March



Test & refine 3 alternative scenarios



Three planning workshops & focus groups – July



Test & refine 2 prototypes – July - November



Community workshop on implementation – September



Community workshop on prototypes - February



Test & Refine Preferred Model – March - April



Task Force Recommendations – Spring 2008

# Where Are We Trying To End-Up

- In March & July, you said the New Tysons should be:
  - Different Kind of Place – more walkable, more mixed use, more open space ...
  - Increased housing, grid of streets, focus growth on transit ...



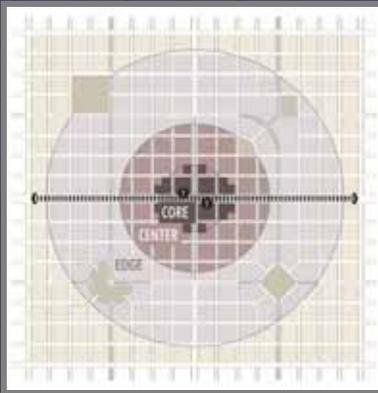
# Continuous refinement

- Plan reflects feedback from community & Task Force
- Looking for feedback tonight as well
- Input from small groups on three topics:
  - Location of new development & mix of uses
  - Future transportation system for Tysons
  - Growing and enhancing quality of life



# Process to Create Test Prototypes

- Took your input from March + July
- Looked at TOD best practice
- Developed two viable prototypes
  - Basis for Preferred Alternative
- Test in relation to Comprehensive Plan



# Building the Prototypes

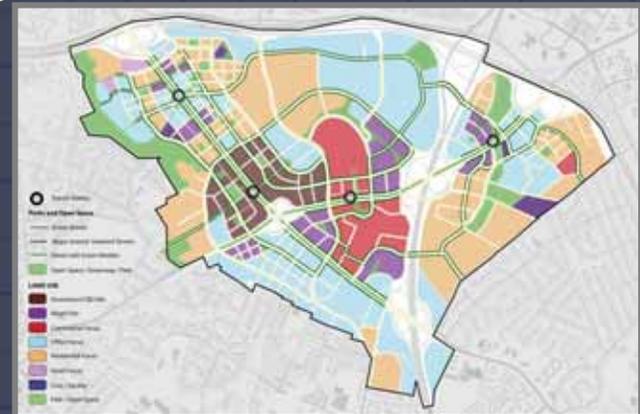
- Bottom up process
- No targets for growth
- Informed by
  - Community input
  - Results of analysis
  - Developer plans
- Intensity at transit
  - Walking influence



# Prototypes

Two patterns of growth focusing on transit

- Prototype A
  - 96 m sq ft
  - Circulator
  - Focused TOD
- Prototype B
  - 127 m sq ft
  - Form giving circulator
  - Extended residential TOD



Prototype A



Prototype B

# Common Elements Between Prototypes

- Tysons as a downtown
- Unique districts w/in Tysons
- Density in exchange for community benefits
- Walkable 18-hour TODs at Metro
- Transit circulators connect Tysons
- Fine grid of streets
- Increase housing & mix of uses
- Enhance parks & open space
- Civic uses



# The Prototypes

	Total Floor Area (sq ft)	Residential Population	Employee Population
Existing (2006)	44m	16,000	105,000
Base Case	74m	35,000	161,500
Prototype A	96m	72,000	159,000
Prototype B	127m	100,000	203,000

Tyson's would grow by 120 to 190% over today

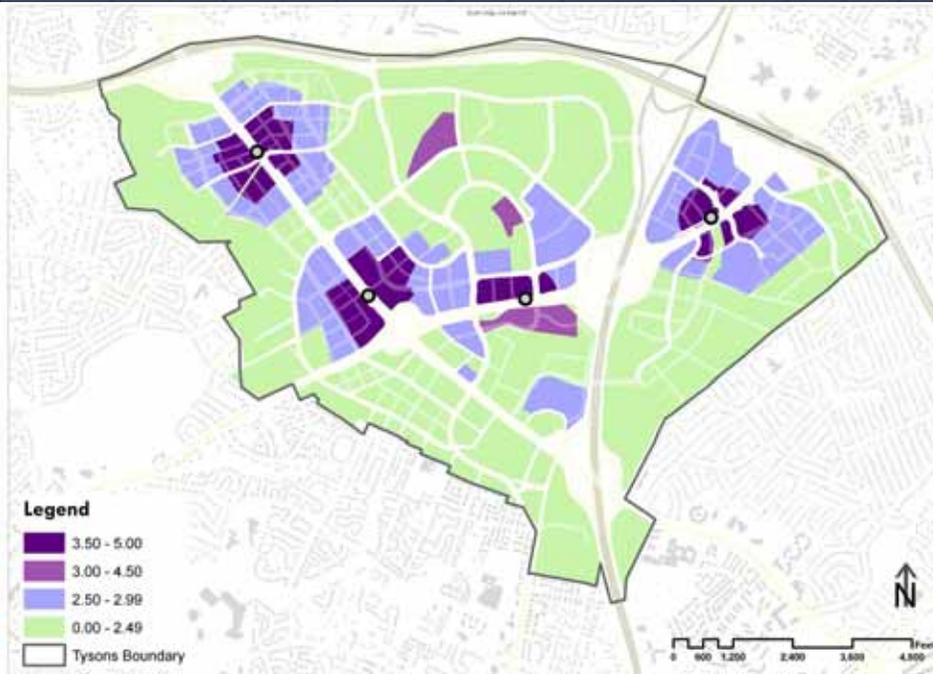


Prototype A



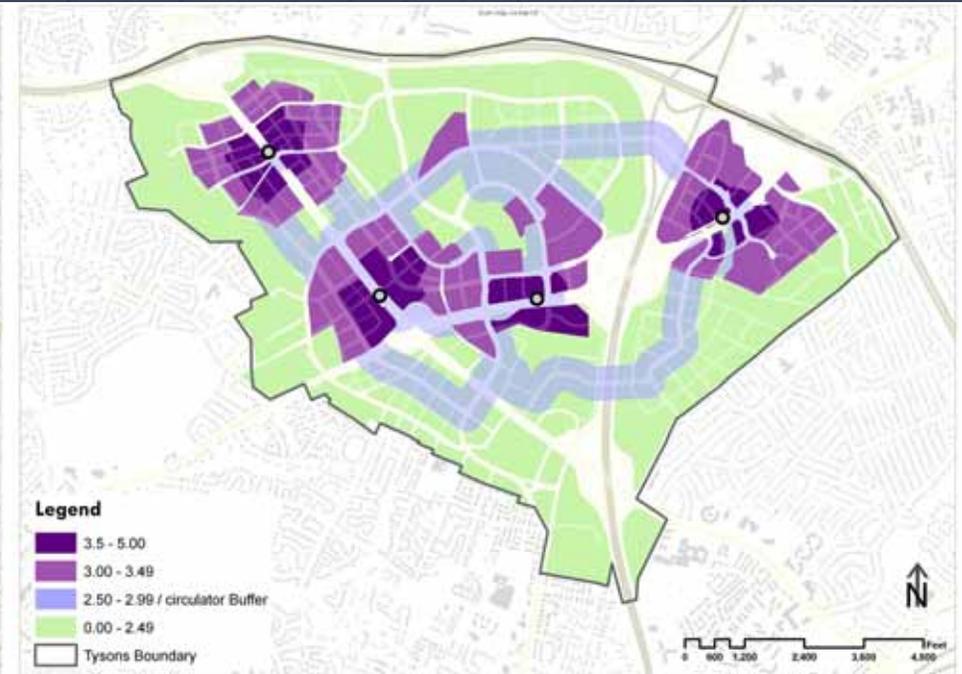
Prototype B

# Prototypes



## Prototype A

- Focused TOD @ Metrorail



## Prototype B

- Extended residential TOD @ Metrorail
- TOD @ Circulator

# Focusing Development in TODs

	Base Case	Prototype A	Prototype B
TOD areas	67%	73%	70%
Non TOD areas	33%	27%	30%

	Base Case	Prototype A	Prototype B
TOD areas	50M	70 M	89 M
Non TOD areas	23.5 M	26 M	38 M
	74 M	96 M	127M

TODs capture 70% or more of the growth in Tysons



Prototype A



Prototype B

# Comparisons

## Percent of Development Relative to 2006

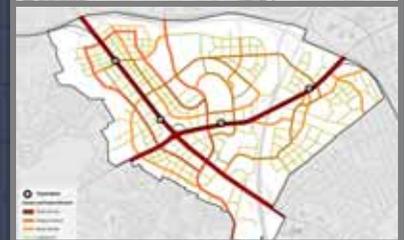
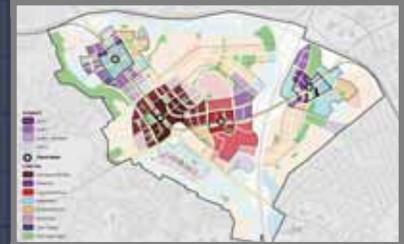
	Base Case	Prototype A	Prototype B
Residential sq. ft.	240%	490%	680%
Employment sq. ft.	150%	150%	190%
Total development	170%	220%	290%
Households	220%	450%	620%
Jobs	150%	150%	190%

The personality of Tysons shifts with a growing share of housing

# Slicing the Onion

- Prototypes
  - Figure ground
  - Land use
  - Intensity
  - Green network
  - Transportation
    - Two networks tested
  - Composite

Building the Prototypes  
layer by layer



# Tysons Today



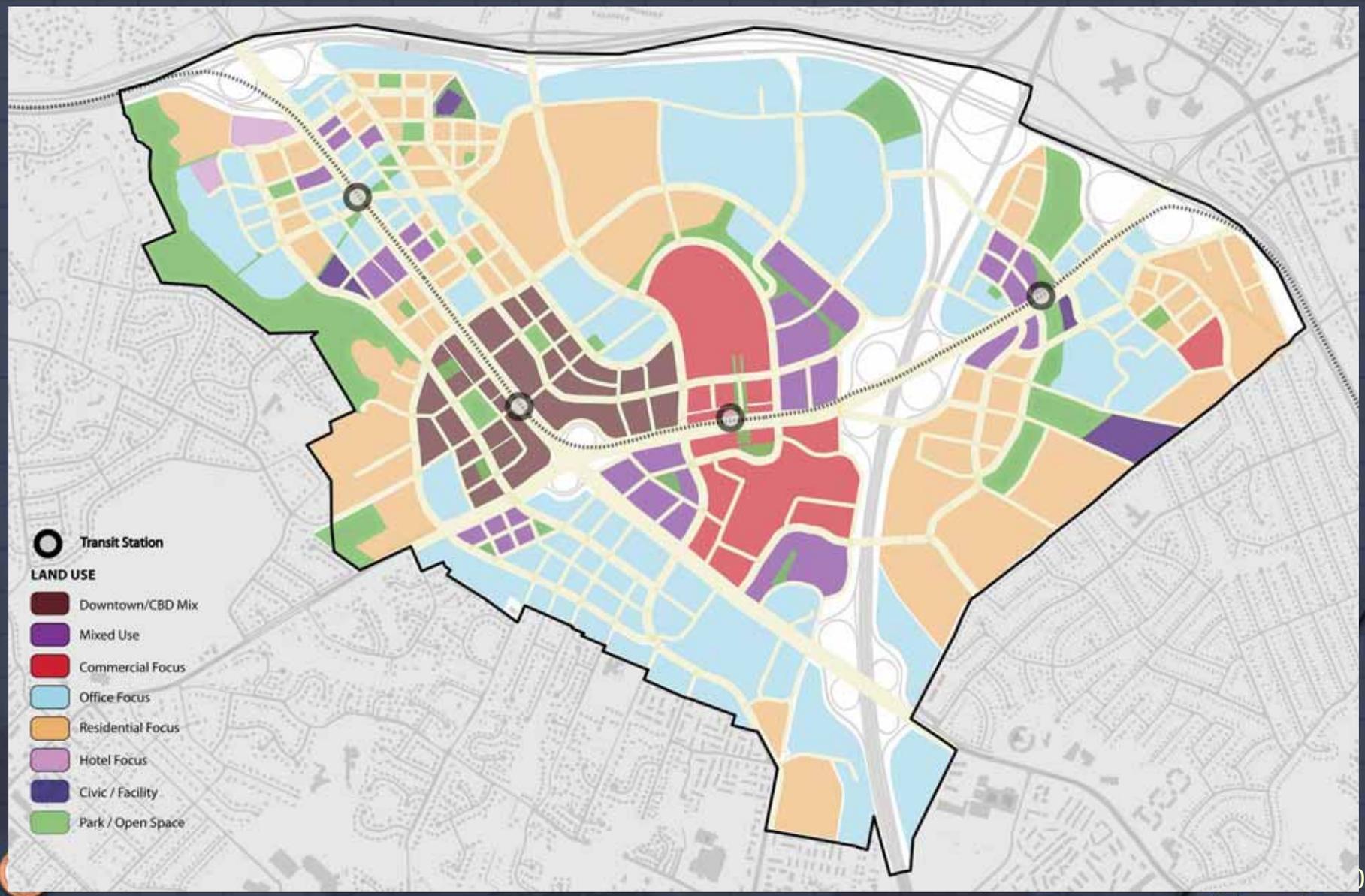
# Prototype A



# Prototype B



# Prototype A: Land Use



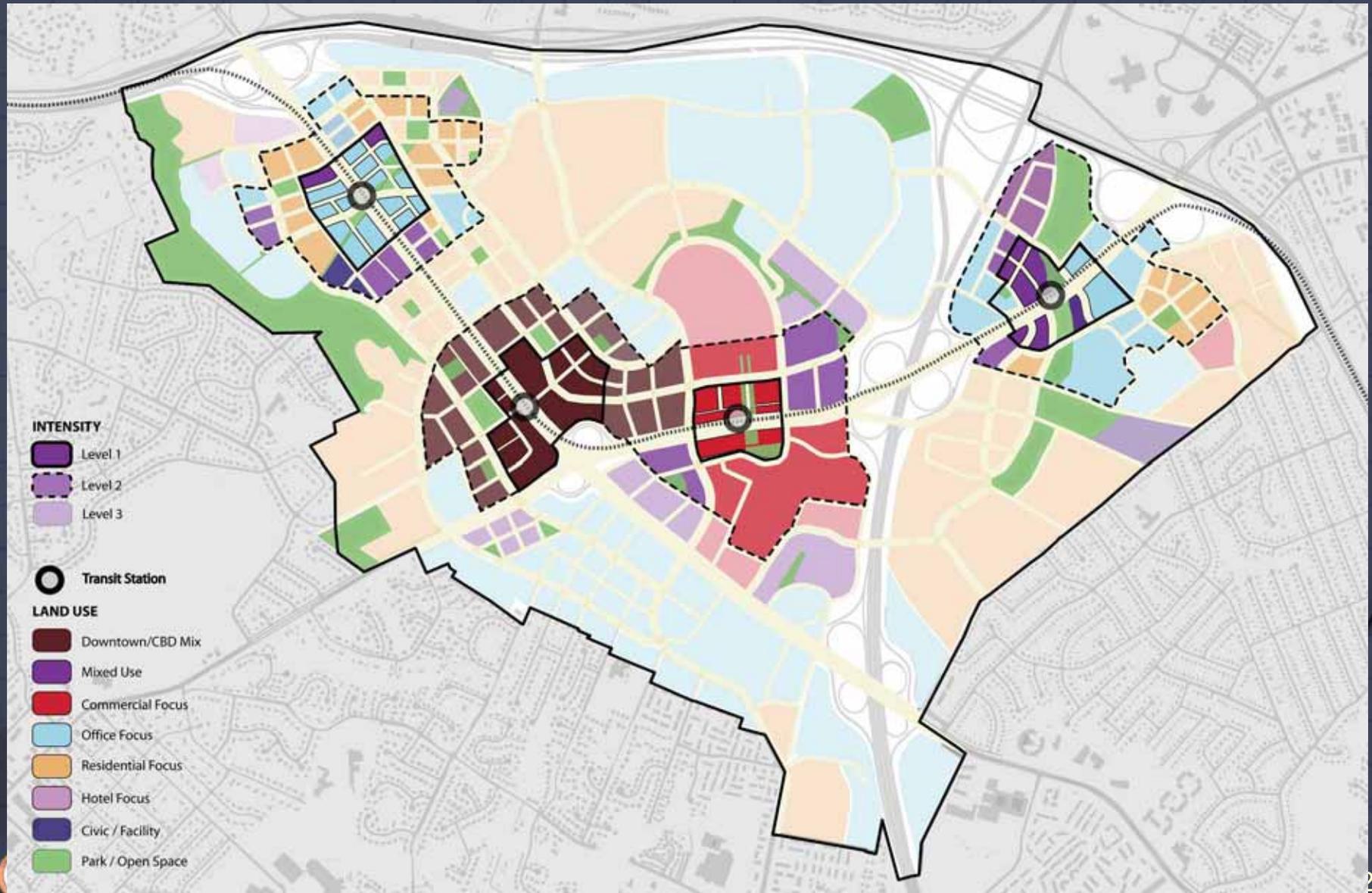
# Prototype A

Where is the growth?

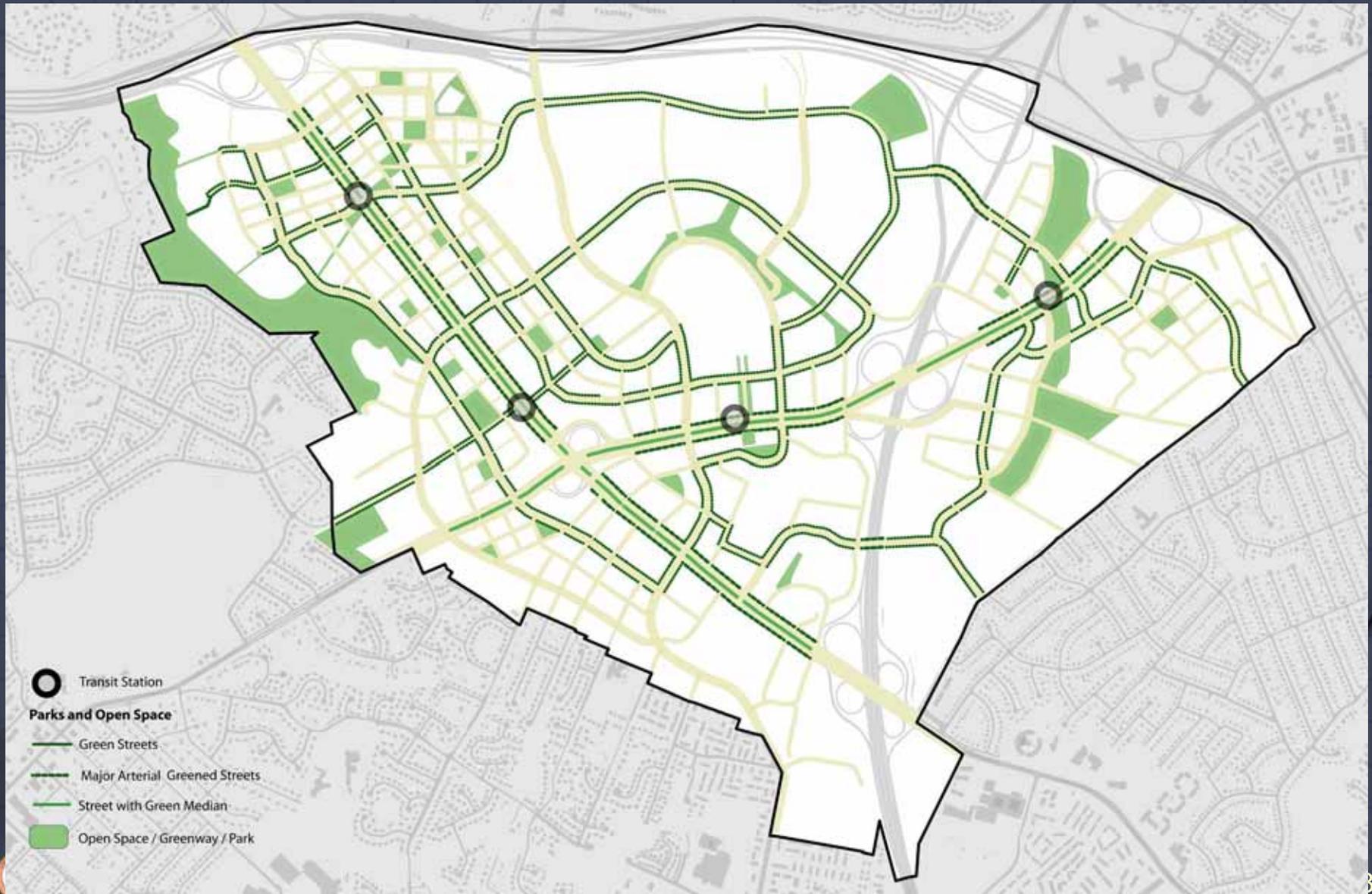
- Jobs @ stations
  - 49,000 *new* jobs
  - 91% of Tysons
- Dwellings @ stations
  - 24,400 *new* dwellings
  - 87% of Tysons



# Prototype A: Intensity



# Adv Prototype A: Green Network



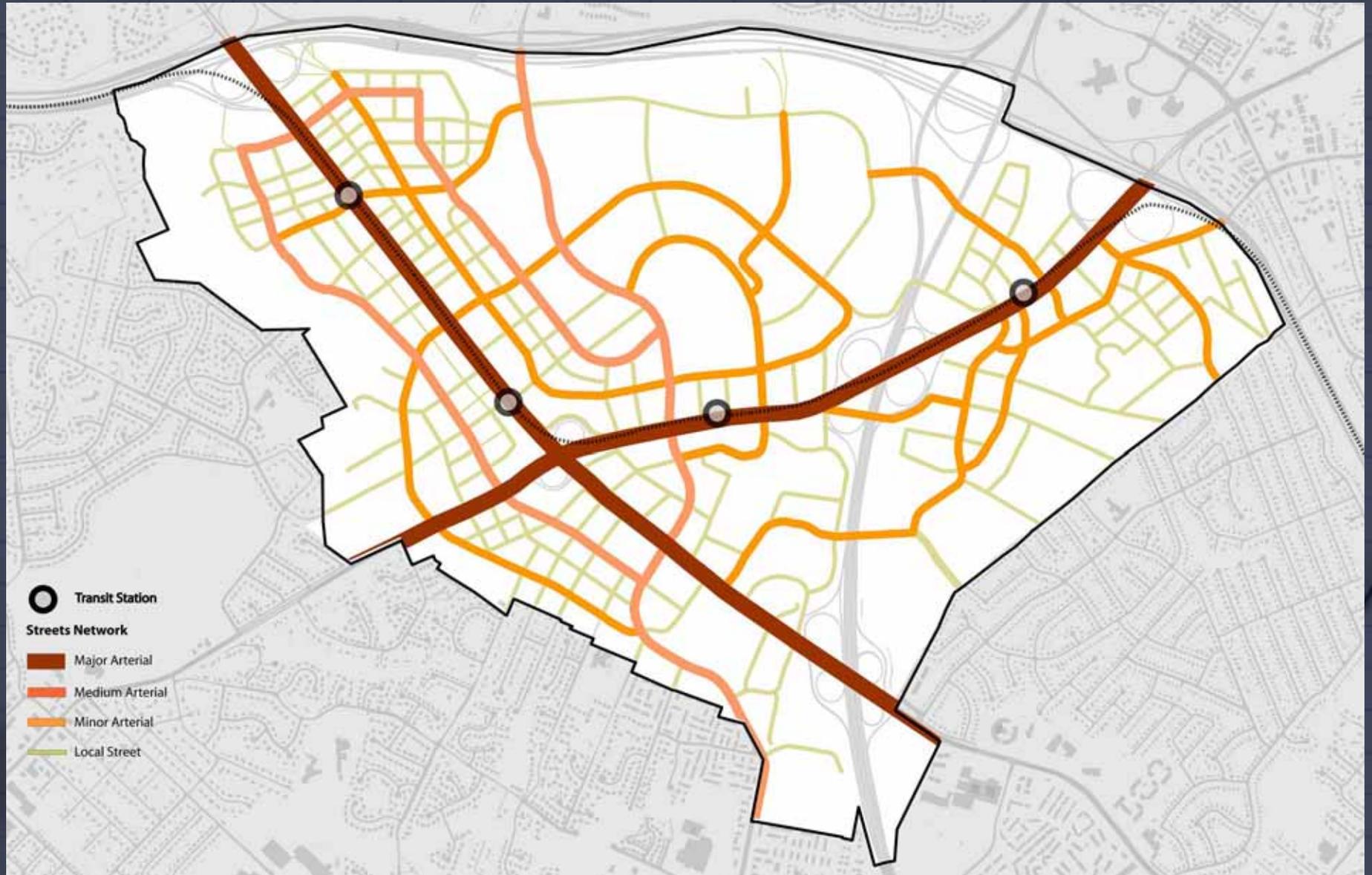
# Prototype A: Green Network

Where is the green?

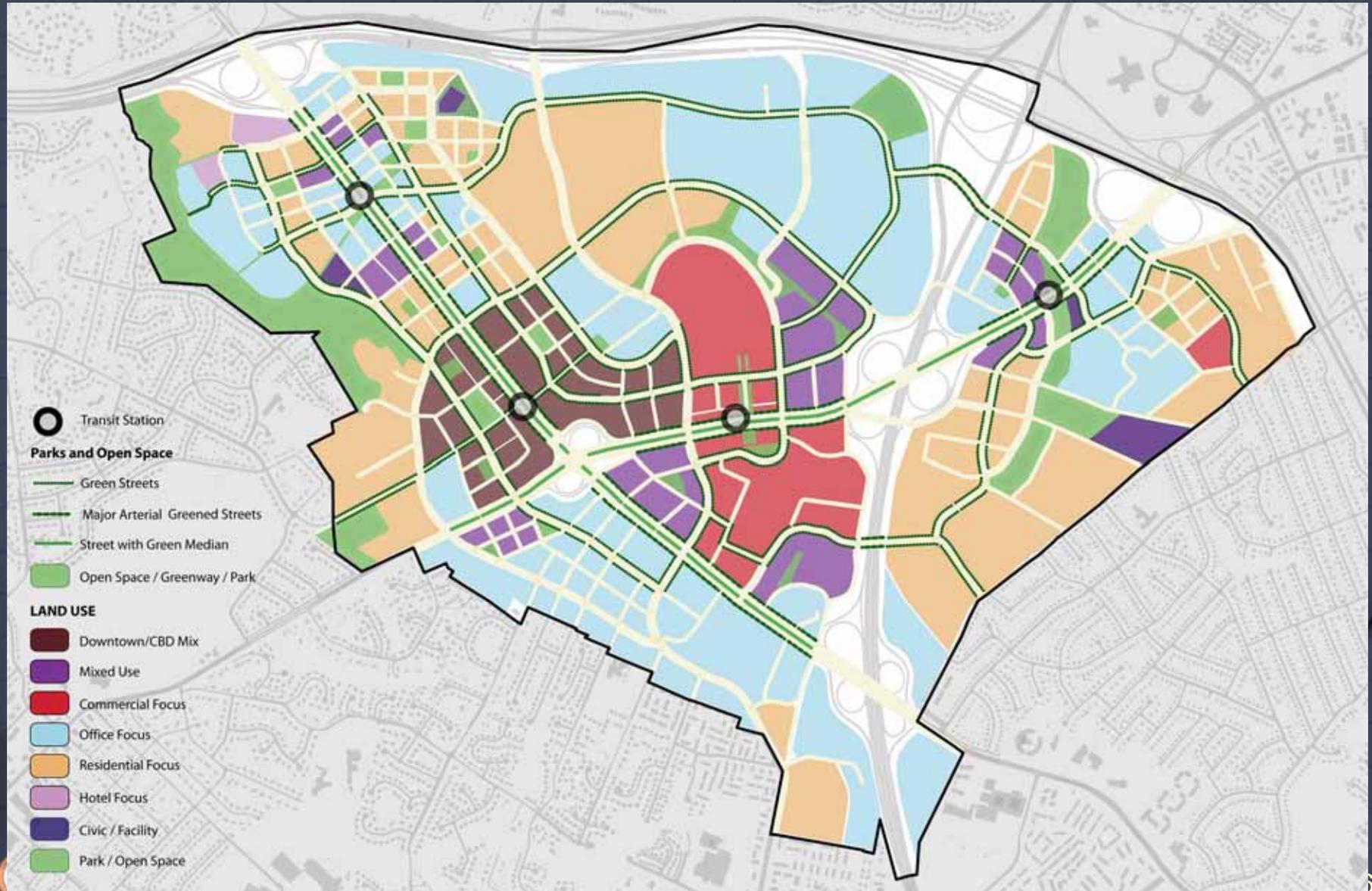
- 85.5 existing acres
- 45 new acres
  - 97 new acres needed
  - 52 acre deficit
- Options
  - Green streets
  - Private open space
  - More height for more open space



# Prototype A: Transportation



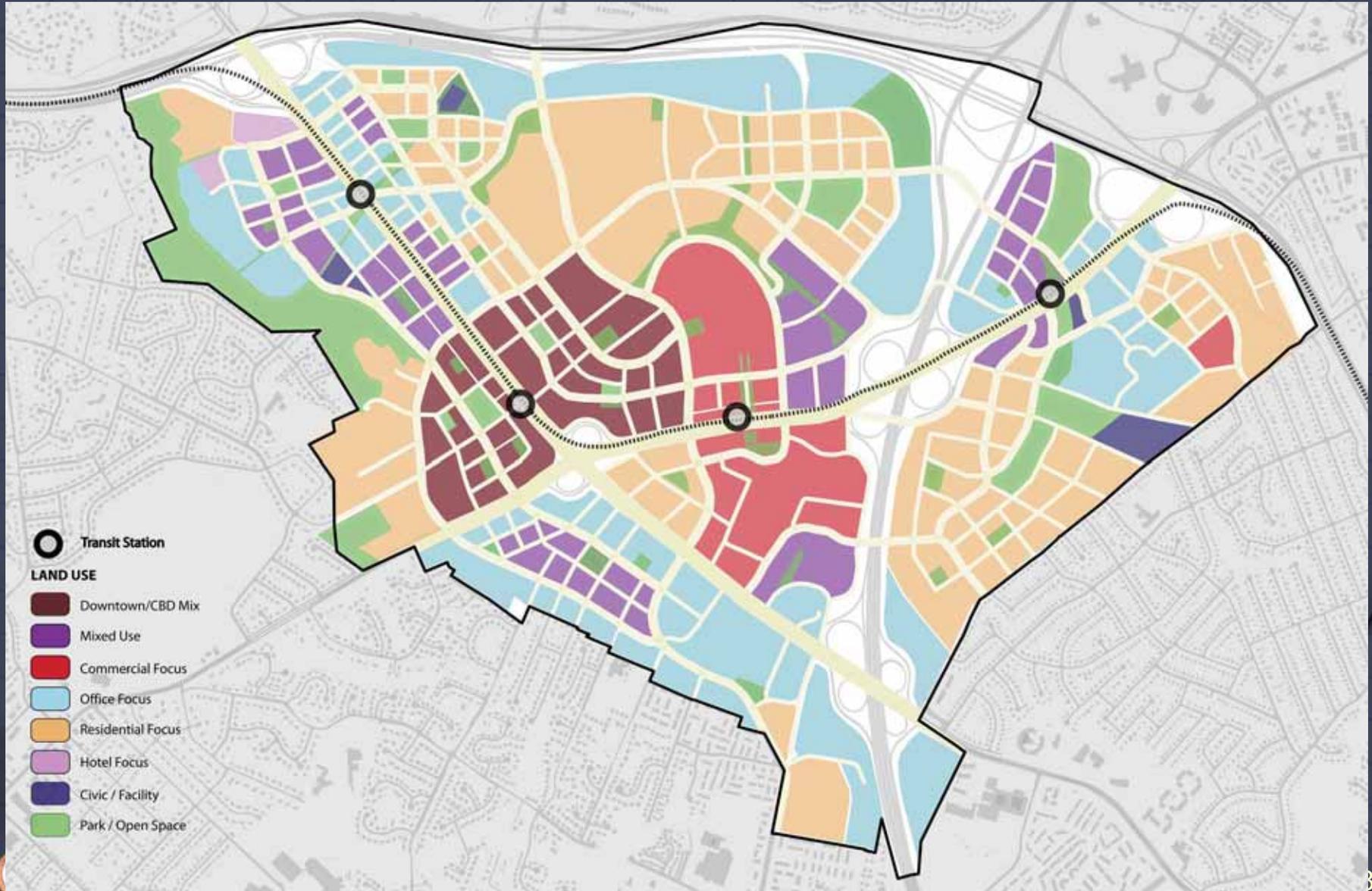
# Prototype A



# Prototype B



# Prototype B: Land Use



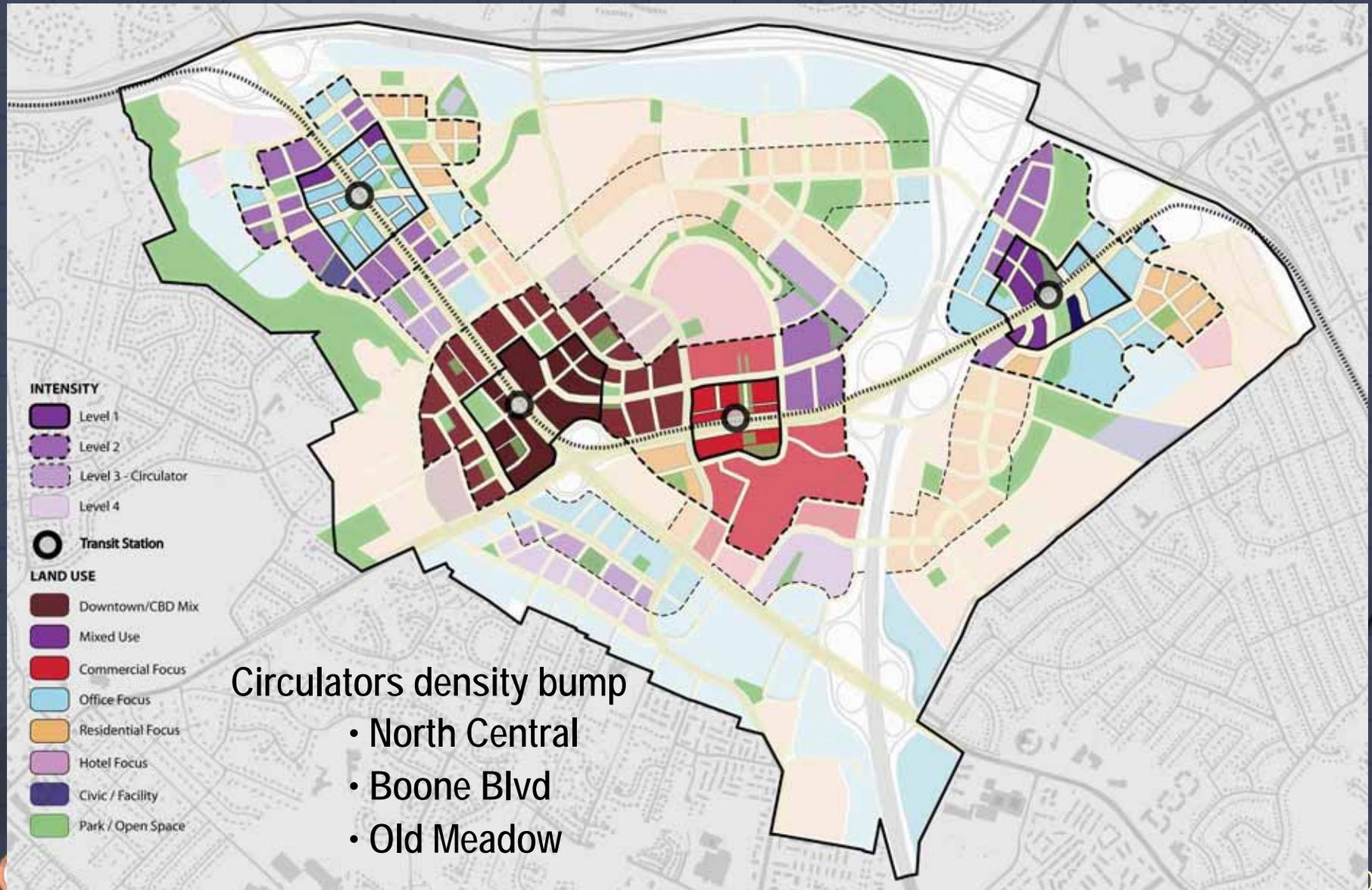
# Prototype B

Where is the growth?

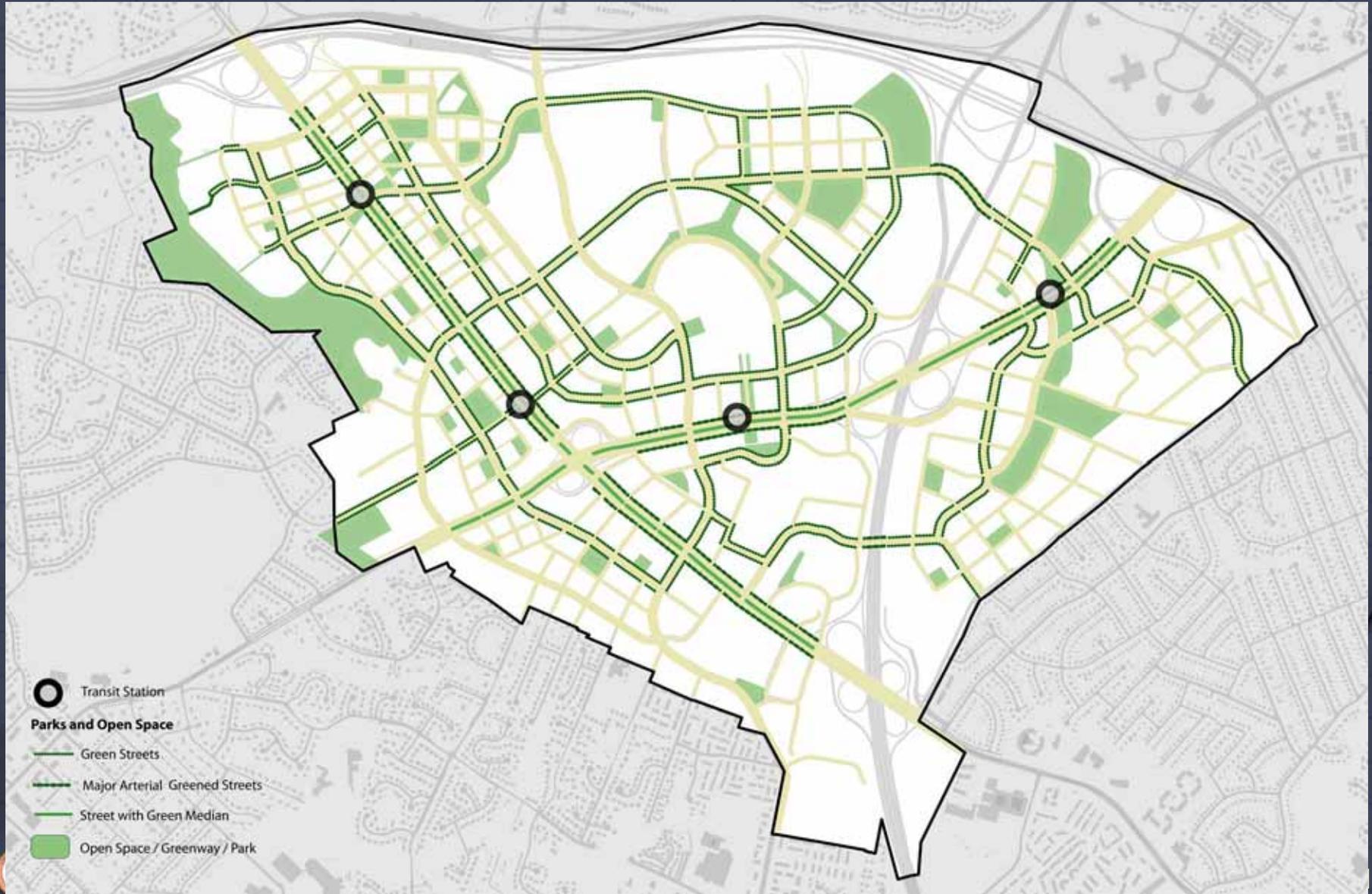
- Jobs @ stations
  - 98,500 *new* jobs
  - 100% of Tysons
- Dwellings @ stations
  - 27,200 *new* dwellings
  - 65% of Tysons



# Prototype B: Intensity



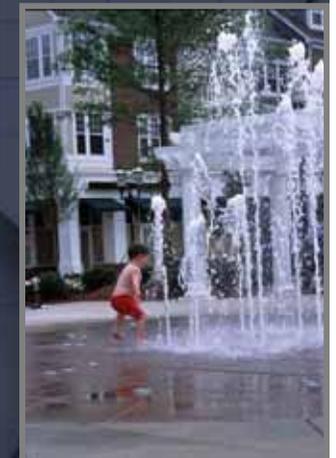
# Prototype B: Green Network



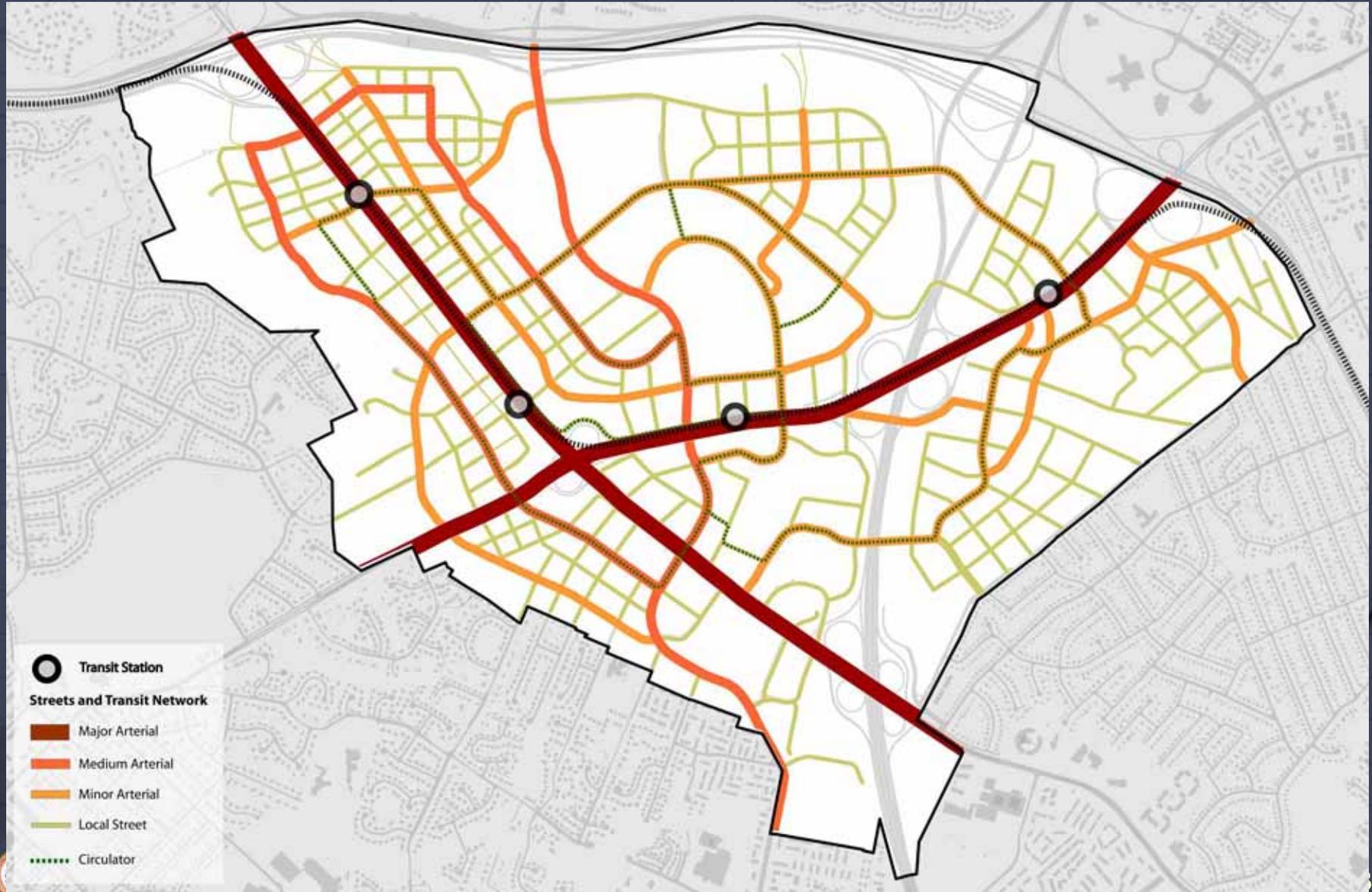
# Adv Prototype B: Green Network

Where is the green?

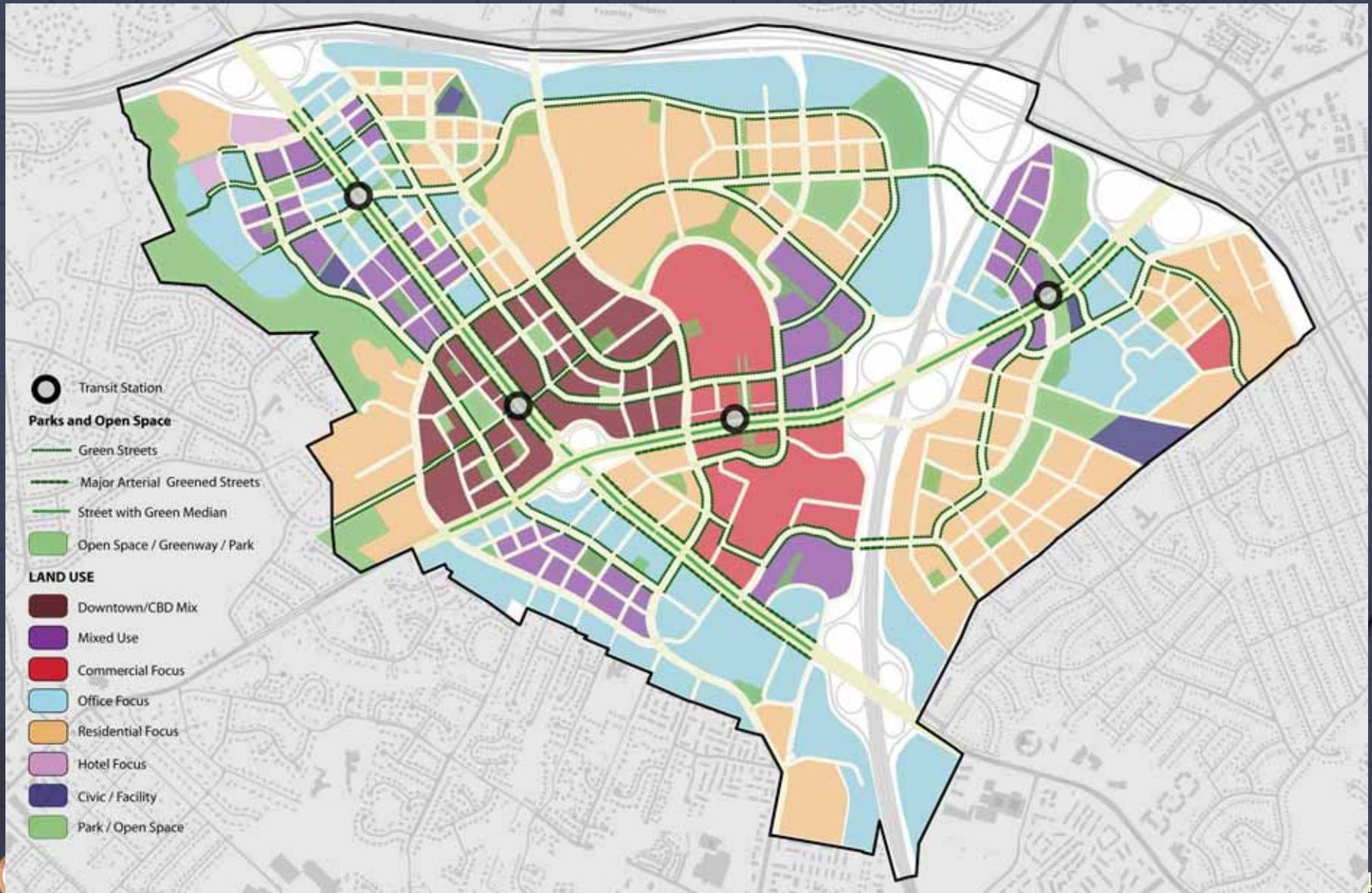
- 85.5 existing acres
- 82 new acres
  - 132 new acres needed
  - 50 acre deficit
- Options
  - Green streets
  - Private open space
  - More height for more open space



# Adv Prototype B: Transportation



# Advanced Prototype B



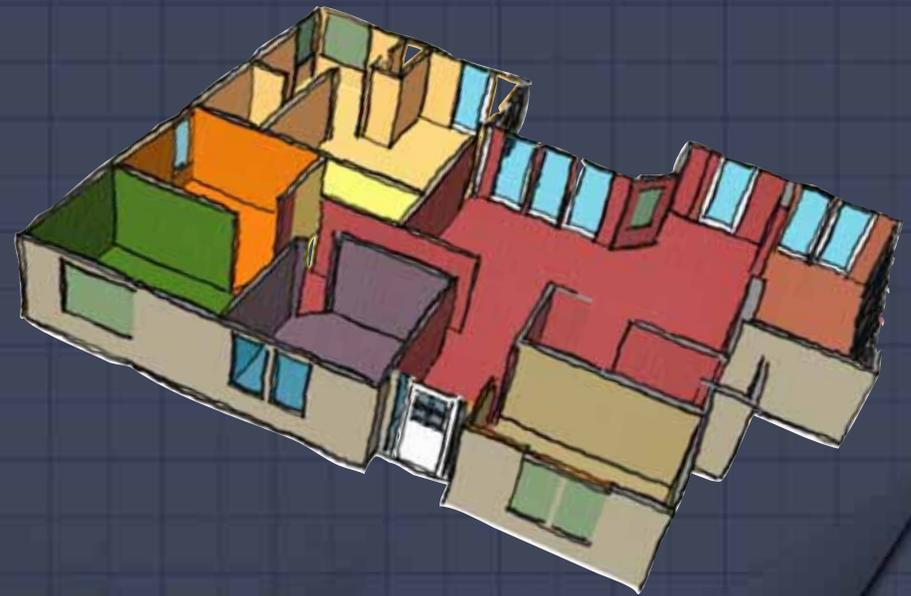
# 21<sup>st</sup> Century Tysons: Many Places

- One Plan With a Series of Unique Parts
  - Working Tysons
  - Living Tysons
  - Shopping Tysons
  - Playing Tysons
- Each Area With its Own Mix



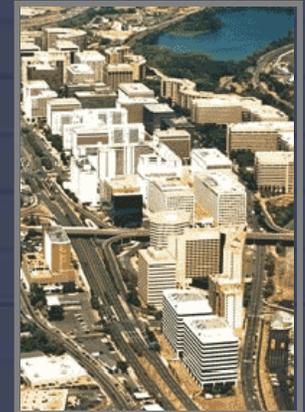
# 21<sup>st</sup> Century Tysons: Many Connected Places

- Like different rooms in your house
  - May use all of your house,
  - but not at the same time
- Tysons is the same



# 21<sup>st</sup> Century Tysons: Many Compact Places

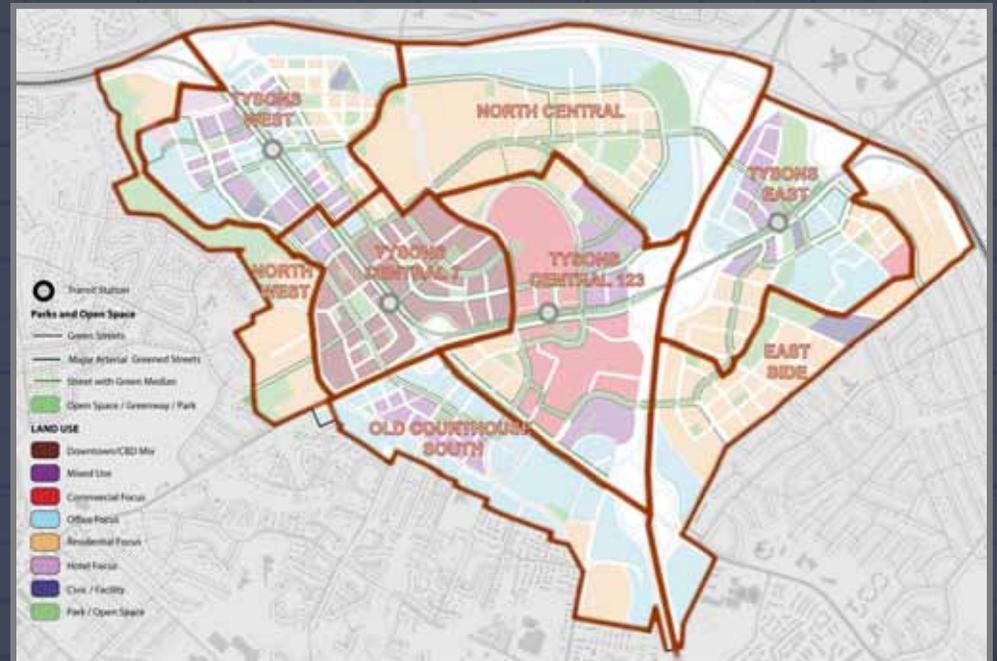
- A Series of Places
  - A “room” with Metro might have 29,000 jobs and 8,000 residents w/in 3 or 4 minutes of Metro
- In scale the equivalent of Crystal City



Crystal City

# Tysons Districts

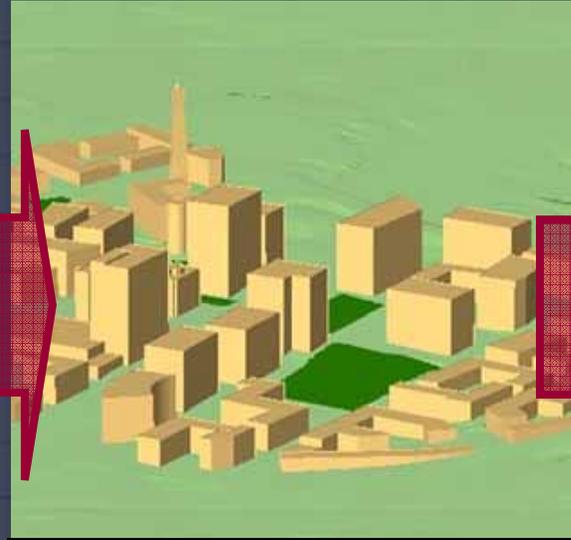
- Basis to slice the numbers
- Drill down further
- Solicit community input



# Visualization: Tysons Central 7



Quilt of Proposals



Growth Allocations



Urban Design Site Plan



Urban Design Heights



Detailed Testing



3D Model

# Visualization: Tysons Central 7



New Slide



# Visualization: Tysons Central 7

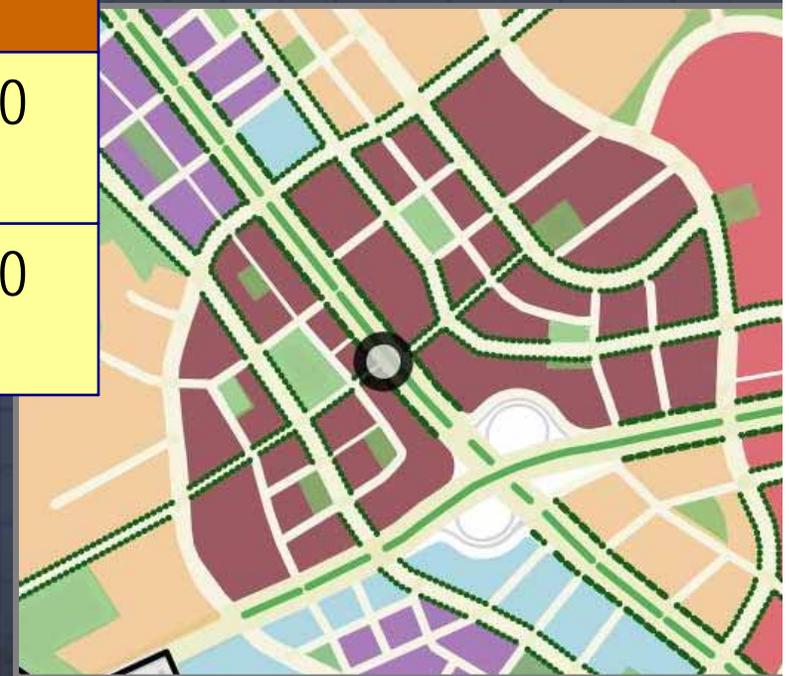


# Tysons Central 7

(178 Acres)



	Base Case	Prototype A	Prototype B
Jobs	31,800 19%	27,400 17%	36,800 18%
Residents	3,700 11%	16,000 22%	15,500 15%



- CBD for Tysons
- Mixed-use TOD
- Prototypes add more housing particularly south of 123

# Visualization: Tysons West



New Slide

# Tysons West

(255 Acres)



	Base Case	Prototype A	Prototype B
Jobs	24,700 15%	28,200 18%	41,000 20%
Residents	6,000 17%	14,700 20%	17,500 17%



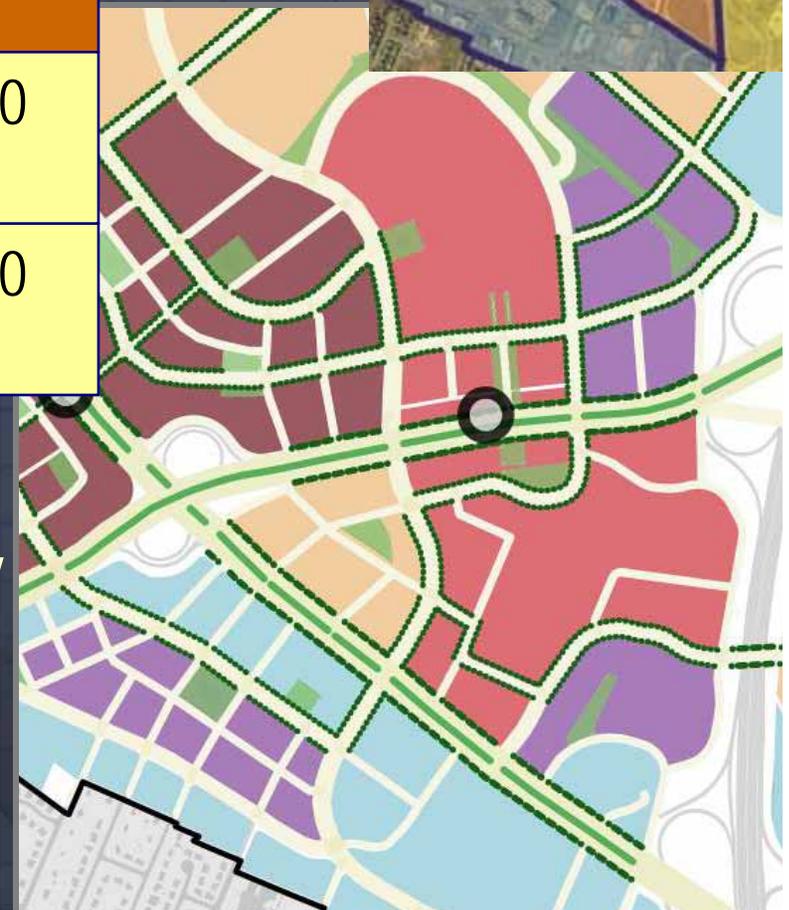
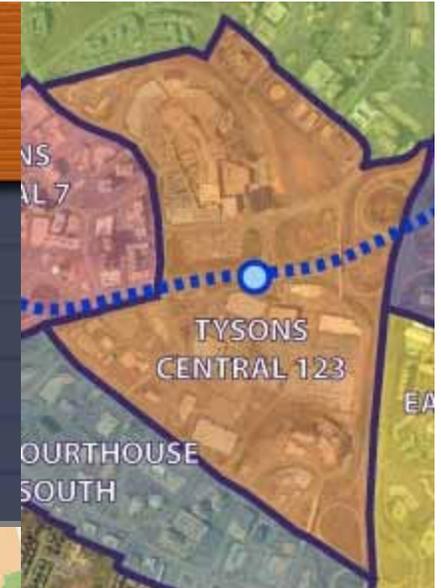
- Mixed-use TOD
- Major differences are in intensity of development
- Extended residential TOD in B

# Tysons Central 123

(243 Acres)

	Base Case	Prototype A	Prototype B
Jobs	40,300 27%	37,700 26%	50,000 26%
Residents	5,000 13%	8,900 12%	13,000 13%

- Retail core for Tysons
- Prototypes add more intensity – mix stays the same



# Visualization: Tysons East



New Slide



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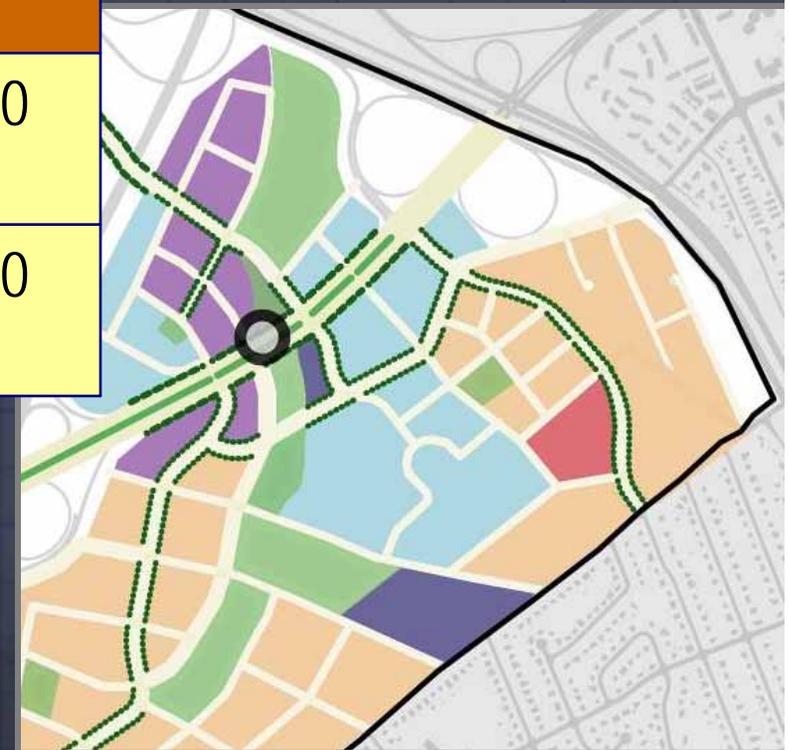
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# Tyson's East

(165 Acres)



	Base Case	Prototype A	Prototype B
Jobs	20,200 12%	24,000 14%	39,000 18%
Residents	2,200 6%	11,400 16%	10,600 11%



- Mixed-use TOD
- A & B increase housing mix
- Extended residential TOD & circulator in B

# North Central

(289 Acres)



	Base Case	Prototype A	Prototype B
Jobs	20,000 12%	20,300 12%	17,400 8%
Residents	8,400 24%	8,400 12%	19,200 19%

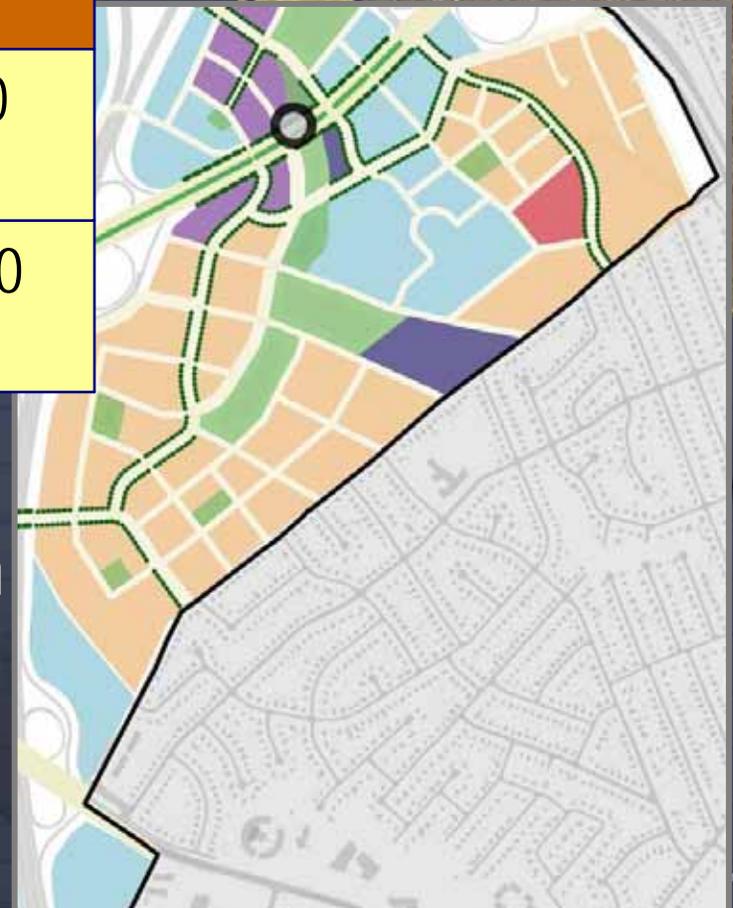
- Base case jobs emphasis
- Same as base case
- B replaces jobs and bumps up housing along circulator

# Eastside

(232 Acres)



	Base Case	Prototype A	Prototype B
Jobs	4,300 3%	3,300 2%	4,400 2%
Residents	7,300 20%	9,300 13%	14,400 14%



- Edge stays low intensity
- Circulator residential bump on Old Meadow

# Old Courthouse South

(181 Acres)



	Base Case	Prototype A	Prototype B
Jobs	20,100 12%	18,000 11%	14,200 7%
Residents	1,200 3%	1,800 3%	7,600 8%



- Base Case most growth
- Circulator bumps up housing

# Northwest

(109 Acres)



	Base Case	Prototype A	Prototype B
Jobs	5 0%	5 0%	5 0%
Residents	1,700 5%	1,700 2%	1,700 2%

- No changes



# Creating Active Places

- Better jobs to resident balance
  - 6.6 to 1 today
  - 4.6 to 1 base case
  - 2.2 to 1 prototype A
  - 2 to 1 prototype B
- Metro station areas more likely to become 18 hr active places
- Lower parking requirements provides space for other public uses – like parks



# Being a Good Neighbor

- TODs have 90% to 100% of jobs *growth*
- TOD area captures nearly 40% of work trips
- Tallest buildings near transit
- Development on the edge is less dense



# Summary of the Numbers

	Total Floor Area (sq ft)	Residential Population	Employee Population
Existing (2006)	44m	16,000	105,000
Base Case	74m	35,000	161,500
Prototype A	96m	72,000	159,000
Prototype B	127m	100,000	203,000

Over existing & base case:

- Greater mix of uses
- Greater intensity of development

# Transportation Analysis

- Prototypes and Networks
- Methods
- Findings and Conclusions

# Prototypes and Networks

- Two networks tested with each Prototype

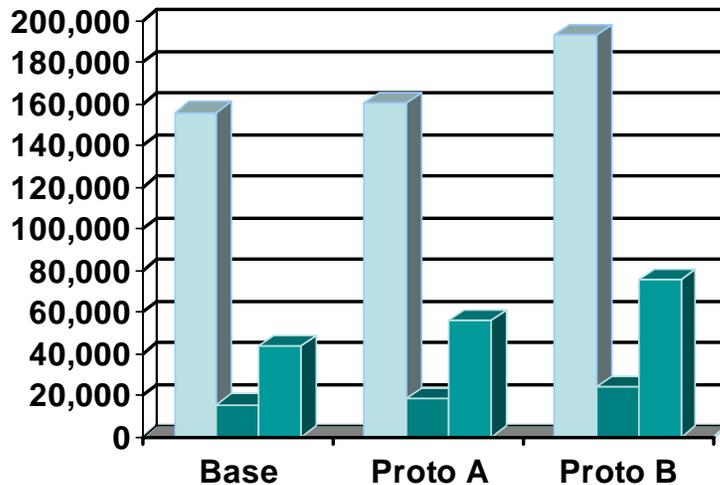
Element	Network 1	Network 2
Metrorail extension through Tysons Corner	✓	✓
Beltway HOT Lane improvements	✓	✓
Enhanced connectivity; grid of streets	✓	✓
Enhanced TDM and parking management	✓	✓
Grade separations at key intersections and access management on Route 7 and 123	✓	
Additional ramps to Beltway and Toll Road	✓	
Transit Circulators (in mixed traffic)	✓	
Transit Circulators (dedicated right-of-way)		✓

# Methods

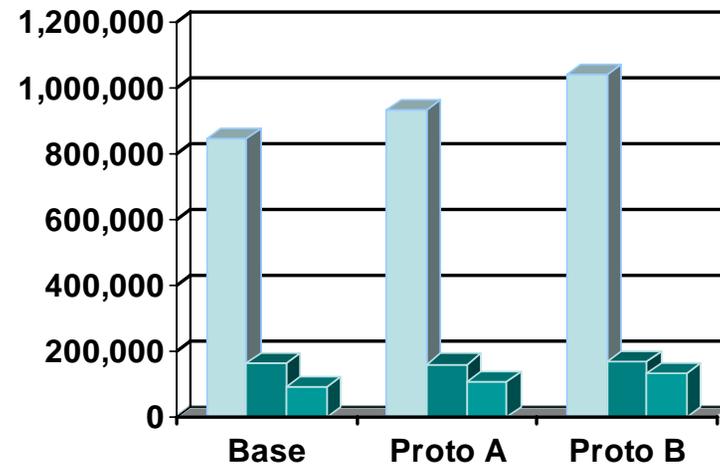
- MWCOG / Fairfax Post-Processor Models
- FHWA TDM Analysis Tool
- Smart Growth 4D Tool
- Transit Pivot-Point Model

# Trip Forecasts

## Work Trips



## Total Daily Trips



■ Auto Driver ■ Passenger ■ Transit

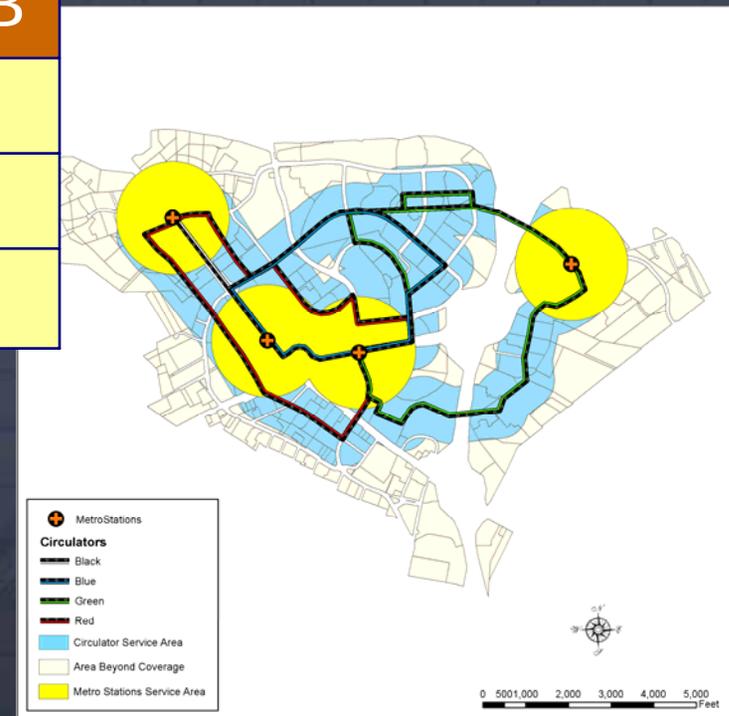
■ Auto Driver ■ Passenger ■ Transit

- Auto driver 76-78% share
- Passenger 12-15% share
- Transit 8%-10% share of total trips
- Transit 20%-26% share of work trips

# TDM Trip Reductions

- Enhanced TDM programs provide important vehicle trip reductions

Area	Prototype A	Prototype B
Station Areas	11.4%	10.4%
Circulator Areas	4.4%	4.5%
Other Tysons	1.2%	1.3%

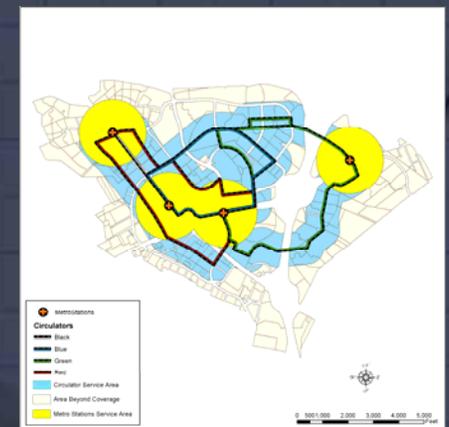


# Urban Form Trip Reductions

- Density
- Diversity
- Destinations
- Design



Area	Prototype A	Prototype B
Station Areas	7%	8%
Circulator Areas	6%	10%
Other Tysons	2%	5%



# Transit Circulator Reductions

- Transit Circulator has potential to in-effect extend comfortable walking distances from Metrorail stations



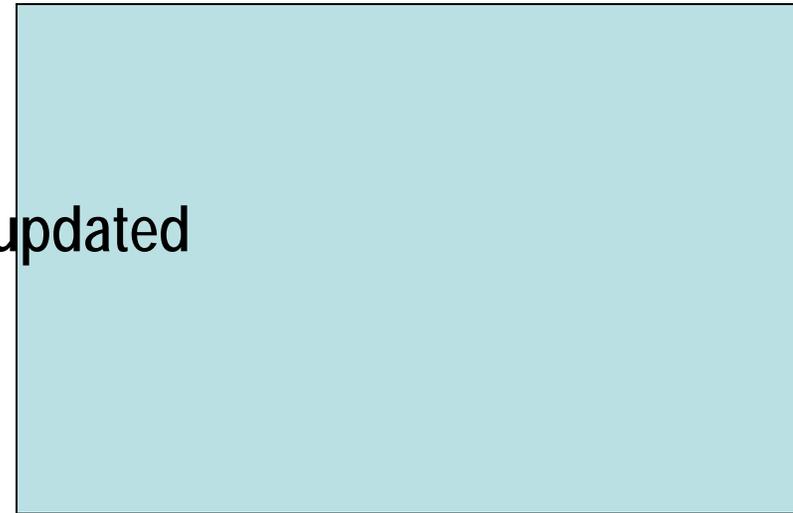
	Additional Transit Capture
Prototype A	6%
Prototype B	14%

# More Congestion

Including I-495 and DTR



Excluding I-495 and DTR



Graphs to be updated

■ AM ■ PM ■ Off-Pk

■ AM ■ PM ■ Off-Pk

- Congestion both peak and off-peak
- Street connectivity and improved jobs/housing balance are mitigating factors

# Travel Times within Tysons

## Increase in Evening Travel Times over 2005 Model Results

Location	Base	A/1	A/2	B/1	B/2
VA 7 @ VA 123 to Dulles Toll Road					
International Drive to Dulles Toll Road					
VA 7 @ VA 123 to I-495					

- Travel times increase by a few minutes under the Prototypes
- The model shows little positive response to the grade separations

# Travel Times around Tysons

## Increase in Evening Travel Times over 2005 Model Results

Location	Base	A/1	A/2	B/1	B/2
Bailey's Crossroads to Reston					
Lewinsville to Vienna					
Reston to McLean					

- Increase in travel times around Tysons are relatively small.

# Travel Times To Tysons

Increase in Evening Travel Times over 2005 Model Results

Location	Base	A/1	A/2	B/1	B/2
Reston to VA 7 @ VA 123					
Bailey's Crossroads to VA 7 @ VA 123					
McLean to International Drive @ VA 123					

- Travel times to Tysons show modest growth over Base
- Difference between Prototype A and B is relatively small

# Through Trips

- A map showing percentage of through trips on selected links is under development for the workshop.

# Surrounding Road Impacts

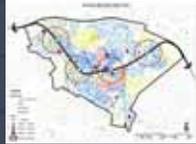


- Impacts being reviewed at selected surrounding road locations
- Reviewing five gateway locations which show congested conditions under Base and Prototype A & B

# Findings and Conclusions

- Added development generates additional trips, but transit ridership is significant
- Overall hours of congested conditions increases
- Prototype A and B appears similar in terms of congestion levels; B has higher transit mode share
- Grade separations do not seem to result in marked improvements in network performance

# Comparing the Prototypes



## Base Case – “Comprehensive Plan”

- 74m sq ft
- 220% more housing than today
- 170% more growth than today
- Work trips on transit 25%
- Highly congested roads  
1/3<sup>rd</sup> of the time

\*(before TDM measures)

# Comparing the Prototypes



## Prototype A

- 96m sq ft
- 450% more housing than today
- 33% more growth than base case
- Work trips on transit 38%
- 50% less highly congested than base case



## Prototype B

- 127m sq ft
- 620% more housing than today
- 76% more growth than base case
- Work trips on transit 39%
- 32% less highly congested than base case

# Location of new development

## Small Group Conversation

- Growth focused on transit
  - 70%+ at stations
- Circulator major difference
  - Form giving in B
- 30 story buildings w/in 1/8 mile of stations
- No change along edges



# Tyson's Transportation System

## Small Group Conversation

- Two different ideas tested
  - Auto orientation / interchanges
  - Greater transit orientation
- Both worked well
  - Less congestion
- Transit orientation supports land use vision



# Enhancing quality of life

## Small Group Conversation

- Both include community benefits
  - Tied to growth
- Civic uses focused at transit
- Increased parks & open space
  - Still a deficit
  - Are taller building a fair trade off for more open space?



# Next Steps

- Finalize & polish the numbers
- Complete the public piece
- Complete the visualizations
- Tighten the PowerPoint

