envision

LOUDOUN

our county • our future

Comprehensive Plan Stakeholders Committee Meeting

July 9, 2018

envision LOUDOUN
our county • our future

Agenda

1. Welcome / Administrative Items / Objectives
2. Stakeholders Committee Recommendations (June 18)
3. Final Constrained Development Forecast
4. Fiscal Impact Model Results
5. Break
6. Travel Demand Model Results
7. Appreciation / Final Comments
8. Adjourn

envision

LOUDOUN

our county • our future

Stakeholders Committee Recommendations from June 18

July 9, 2018 | Comprehensive Plan Stakeholders Committee

Recommendation from June 18

- Stakeholder Member Recommendation: Rural Villages Policy 1, Strategy 1.1, Actions A & G - Delete these Actions.
- Stakeholder Member Explanation: Historic Rural Villages or other crossroads communities in the RPA are not planned growth areas and rarely have the water & sewer capacity to sustain a higher level of development. Towns are the appropriate and designated growth centers in the RPA.
- **Action A.** Develop small area plans and master plans for the Rural Villages to support community goals and address issues related to land use and zoning, economic development, natural and historic resources, community facilities and services, water and wastewater, and transportation to maintain the character of the villages.
- **Action G.** Develop criteria for evaluating other crossroads communities in the RPA for designation as Rural Villages and amend the Comprehensive Plan and Zoning Ordinance as appropriate.

envision

LOUDOUN

our county • our future

Residential Development Forecast

July 9, 2018 | Comprehensive Plan Stakeholders Committee

envision LOUDOUN
our county • our future

Forecasting Process

Unconstrained Market Analysis (DEMAND)

- Preliminary Constrained Forecast
- Countywide SUPPLY

Unconstrained Market Analysis (DEMAND)

- Final Constrained Forecast
- Geographic Level SUPPLY

Unconstrained Forecasts – No Constraints

- No limitations to development
- Does not consider:
  - *Revised General Plan or Loudoun 2040 Plan's planned land use*
  - *Policy Areas – Rural, Transition & Suburban*
  - *Supply of available land*
  - *Environmental constraints (floodplain or conservation easements)*

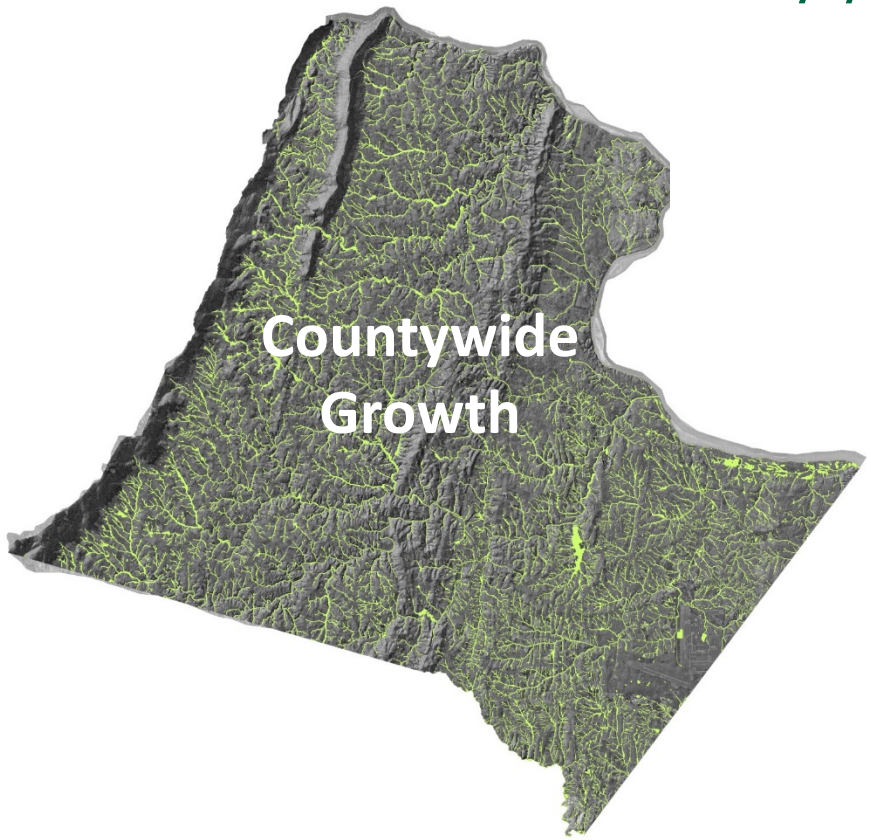
Unconstrained Market Forecasts Residential Results

Countywide Residential Units through 2040 based on Demand (Net New Units)				
	SFD	SFA	MF	Total
Demand	28,370	23,480	23,020	74,870

Medium Scenario

Constrained Forecasts

Projected Countywide Growth by Product Type (FIC Guidelines)



Product Types:

- **Residential**
  - *SFD Rural*
  - *SFD Suburban*
  - *SFA*
  - *MFA Suburban*
  - *MFA Urban*
  - *MF Stacked*
  - *GQ*
- Retail: Suburban & Urban
- Hotel
- Office: HD, HD Urban & LD
- Industrial: Light & Heavy
- Data Center

Scenarios:

- Revised General Plan
  - Medium
- Loudoun 2040 Plan
  - Low
  - Medium
  - High

Timeframes:

- 5-year intervals
- 2015-2040

Preliminary Constrained Forecasts Steps

COUNTYWIDE UNCONSTRAINED FORECASTS

→

APPLIED CONSTRAINTS

→

COUNTYWIDE CONSTRAINED FORECASTS

<u>Mathematical Calculation</u>
For unentitled land:
acreage x density x share of unit type

February 2018

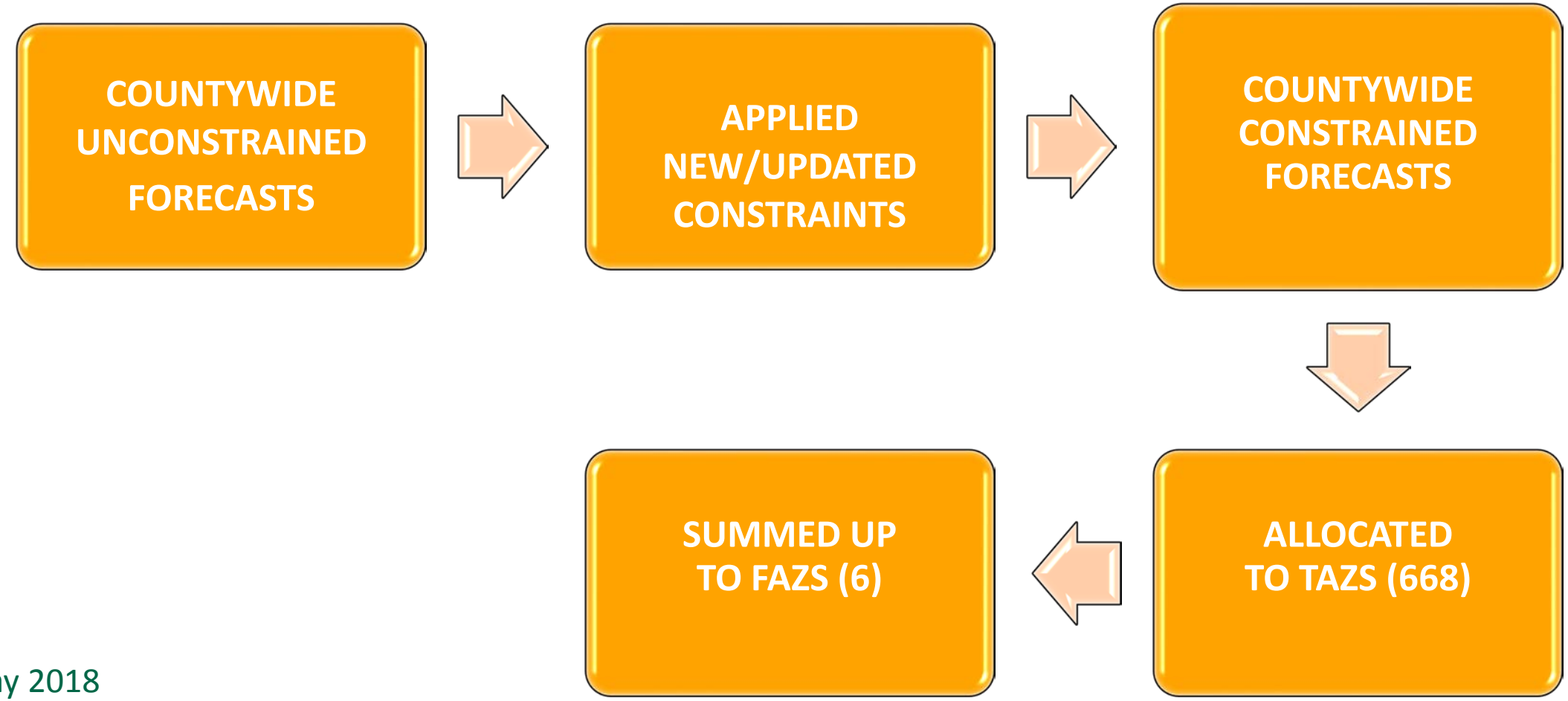
Preliminary Constrained Forecasts - Constraints

- *Revised General Plan (Baseline) or Loudoun 2040 Plan (Proposed)*
- *Supply of available land as of July 1, 2016*
- *Entitlements as of July 1, 2016 (except for Urban Transit Center)*
- *Environmental constraints (conservation easements or> 50% floodplain)*

Preliminary Constrained Forecasts – Residential Results

Projected Countywide Residential Units through 2040 (Net New)				
	SFD	SFA	MF	Total
Revised General Plan	10,069	4,156	14,809	29,034
Loudoun 2040	16,138	9,587	18,888	44,614
Difference	6,069	5,431	4,079	15,580

Final Constrained Forecasts - Steps



April/May 2018

Final Constrained Forecasts - Constraints

- *Revised General Plan or Loudoun 2040 Plan's planned land use*
- *Supply of available land as of July 1, 2017*
- *Entitlements as of July 1, 2017; Active by-right*
- *Environmental constraints (conservation easements or >50% Floodplain)*

Final Constrained Forecasts Residential Results

Projected Countywide Residential Units through 2040 (Net New)				
	SFD	**SFA**	**MF**	**Total**
Revised General Plan	10,513	4,144	14,808	29,465
Loudoun 2040	12,144	7,160	18,888	38,192
Difference	1,631	3,016	4,080	8,727

Differences between Preliminary & Final Constrained Forecasts

1

Updated data

2

Urban Transit Center Place Type Assumptions

3

SFD Suburban Product Type Adjustments

4

Infill & Redevelopment Assumptions

1. Preliminary v. Final: Updated Data

Preliminary

- GIS Land Use Layer updated through July 1, 2016
- Countywide Data

Final

- GIS Land Use Layer updated through July 1, 2017
- TAZ Data

Impacts

- Final yielded ±2,800 fewer SF units than Preliminary
- Why? Projects approved (or active applications under consideration) with lower density than allowed under the 2040 Plan.

2. Preliminary v. Final: Urban Transit Center Place Type Assumptions

Preliminary

- No agreed-upon methodology
- Based on active applications that are inconsistent with RGP or Proposed Plan
- Includes proposed SF & MF

Final

- Agreed upon methodology
- Instead of active applications, applied consistent methodology across this place type
- Place type only allows MF

Impacts

- Final yielded ±600 fewer SF units than Preliminary

3. Preliminary v. Final: SFD Suburban Product Type Assumptions

Preliminary

- General place type assumptions across County with no regard to policy area
- Countywide

Final

- Parcel level
- Policy Area specific
- Reduced pace of development in Rural Policy Area to match permitting trends/same as RGP

Impacts

- Final yielded ±2,500 fewer SF units than Preliminary

4. Preliminary v. Final: Infill & Redevelopment Assumptions

Preliminary

- General place type assumptions across County with no regard to policy area
- Countywide

Final

- In some infill & redevelopment areas, shifted SF to MF since many of these areas are not appropriate for SF
- Parcel Level

Impacts

- Final yielded ±500 fewer SF units than Preliminary

Preliminary v. Final: Results

Final Forecast for 2021 to 2040 (April/May 2018)

	Housing Units			
	SFD	SFA	MF	Total
Revised General Plan (Medium)	10,513	4,144	14,808	29,465
Loudoun 2040 Plan (Medium)	12,144	7,160	18,888	38,192
Difference	1,631	3,016	4,080	8,727

Preliminary Forecast for 2021 to 2040 (February, 2018)

	Housing Units			
	SFD	SFA	MF	Total
Revised General Plan (Medium)	10,069	4,156	14,809	29,034
Loudoun 2040 Plan (Medium)	16,138	9,587	18,888	44,614
Difference	6,069	5,431	4,079	15,580

Difference between Preliminary & Final Forecast

	Housing Units			
	SFD	SFA	MF	Total
Revised General Plan (Medium)	444	(12)	(1)	431
Loudoun 2040 Plan (Medium)	(3,994)	(2,427)	0	(6,422)

envision LOUDOUN
our county • our future

envision

LOUDOUN

our county • our future

Loudoun County 2040
Fiscal Impact Results

Presentation to:

Envision Loudoun Stakeholders Committee

July 9, 2018

Presented by:

Julie Herlands, AICP, Vice President, TischlerBise

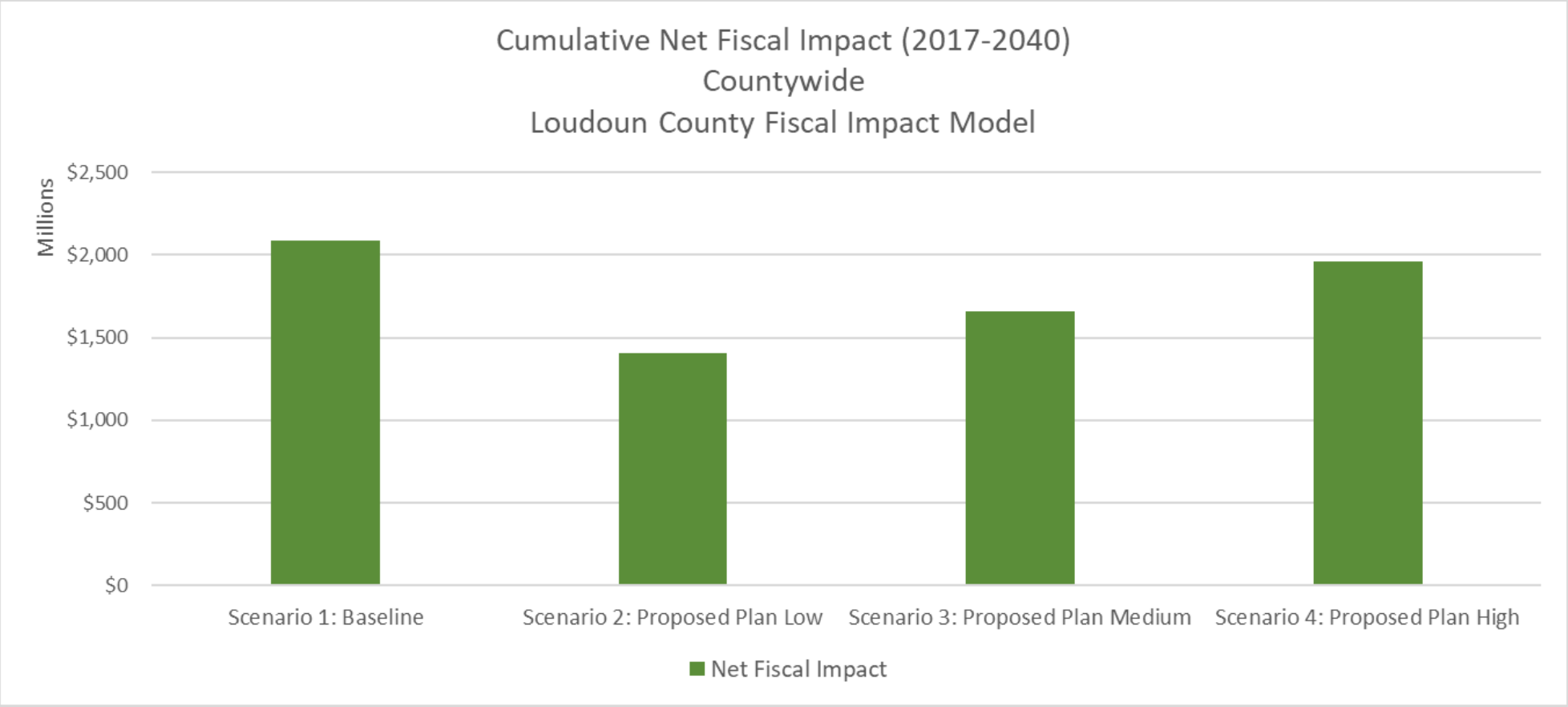
envision LOUDOUN
our county • our future

Methodology

- Four scenarios with growth in geographic subareas
- Modeled all General Fund revenues and expenditures
- Included other funds that are affected by growth
- Calculated revenues along with operating and capital costs for forecasted future development

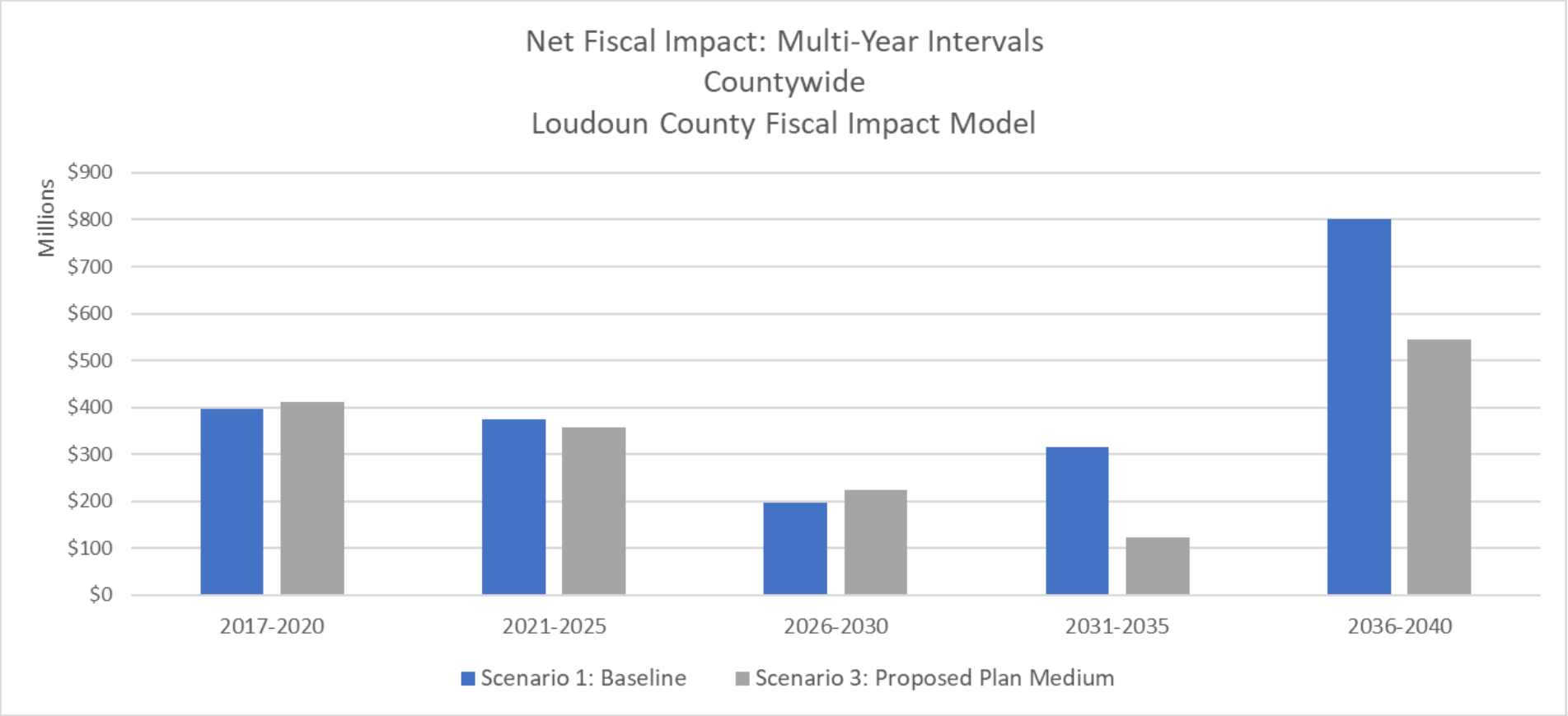
Countywide: Net Fiscal Impact

- Cumulative Results



Countywide: Revised General Plan vs. Proposed Plan Medium

- Net Fiscal Impact: Multi-Year Intervals



Countywide: Baseline Revised General Plan vs. Proposed Plan Medium

- Positive net fiscal results
- Sufficient revenue generated from real and personal property tax revenue due to mix of land uses, particularly nonresidential
- Proposed Plan Medium is less positive than the Baseline:
  - *Higher operating and capital costs for schools from residential development*
  - *Higher capital costs for transportation improvements*
- All time periods produce positive fiscal impact results for both scenarios

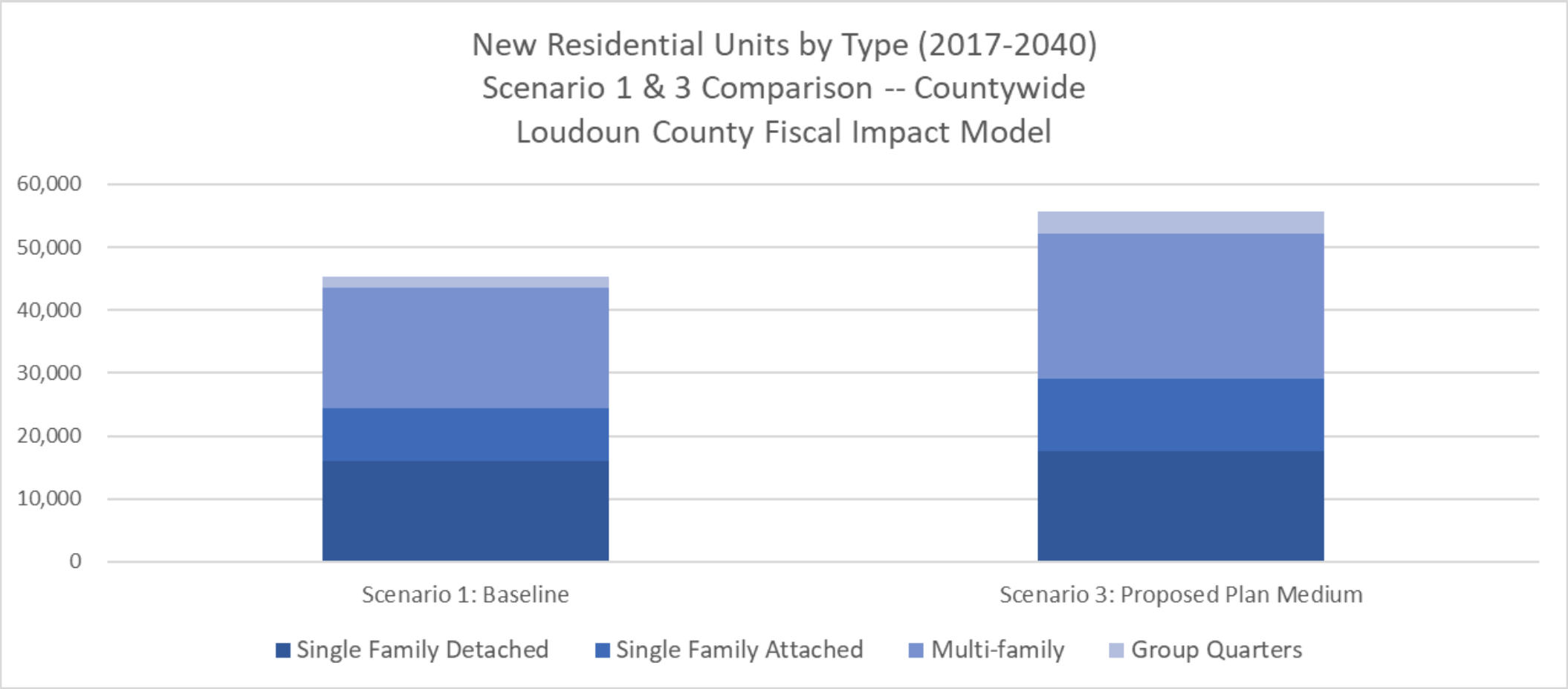
Growth Assumptions: Countywide

Cumulative Growth Projection Detail
LOUDOUN COUNTY FISCAL IMPACT MODEL
COUNTYWIDE

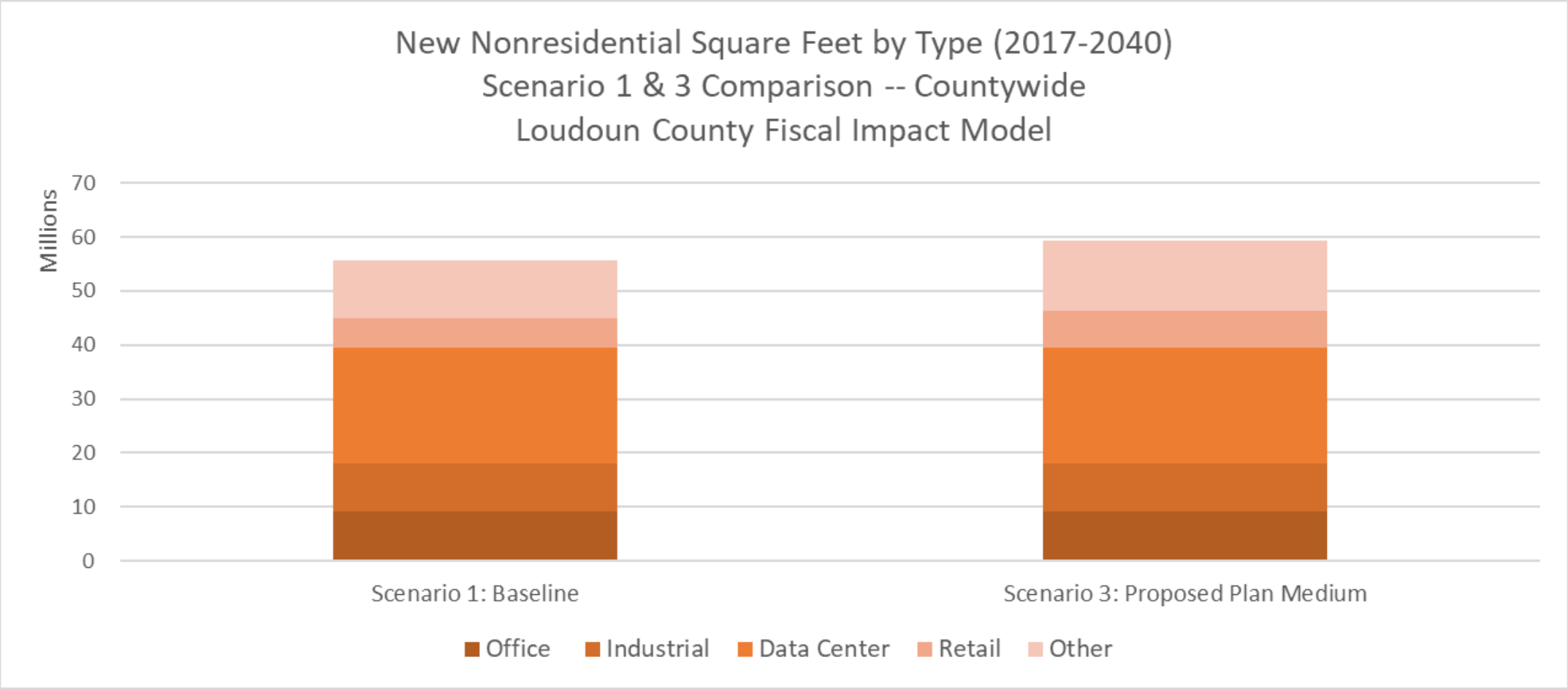
CUMULATIVE (Years 2017-2040)	SCENARIO 1: Revised General Plan Baseline Forecast	SCENARIO 2: Loudoun 2040 Proposed Plan Low	SCENARIO 3: Loudoun 2040 Proposed Plan Medium	SCENARIO 4: Loudoun 2040 Proposed Plan High
RESIDENTIAL UNITS				
TOTAL RESIDENTIAL UNITS	45,292	53,281	55,611	59,424
POPULATION	122,113	143,601	148,155	155,633
SCHOOL ENROLLMENT	22,948	27,481	28,001	28,867
TOTAL NONRESIDENTIAL GROSS SQUARE FEET	55,719,895	53,844,949	59,410,429	65,031,044
TOTAL EMPLOYMENT	87,079	84,432	92,700	101,526

The total residential units shown above include Group Quarters. Group Quarters are places where people live in a group living arrangement, such as nursing homes, dormitories, and jails.

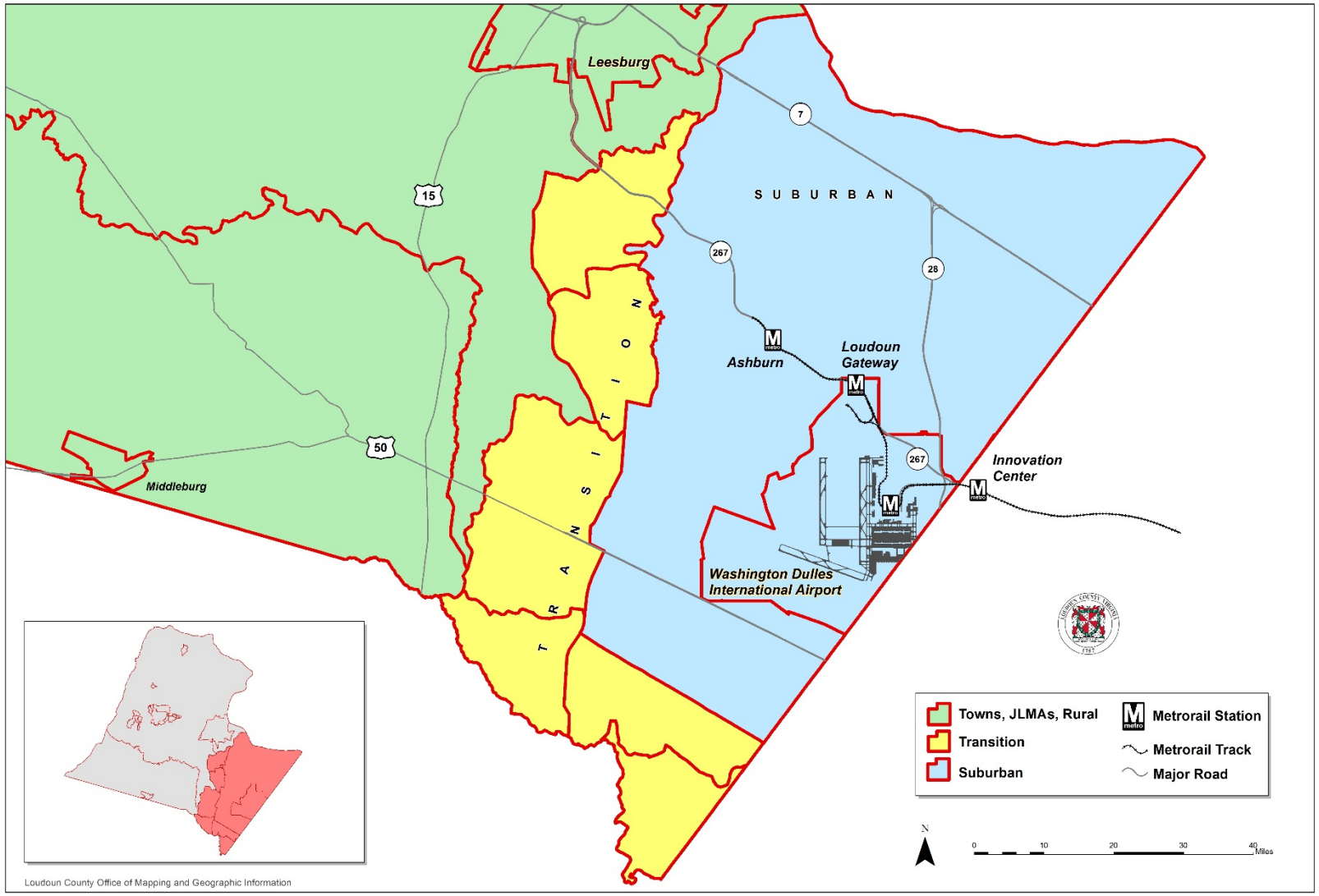
Countywide Growth Projections: Residential



Countywide Growth Projections: Nonresidential

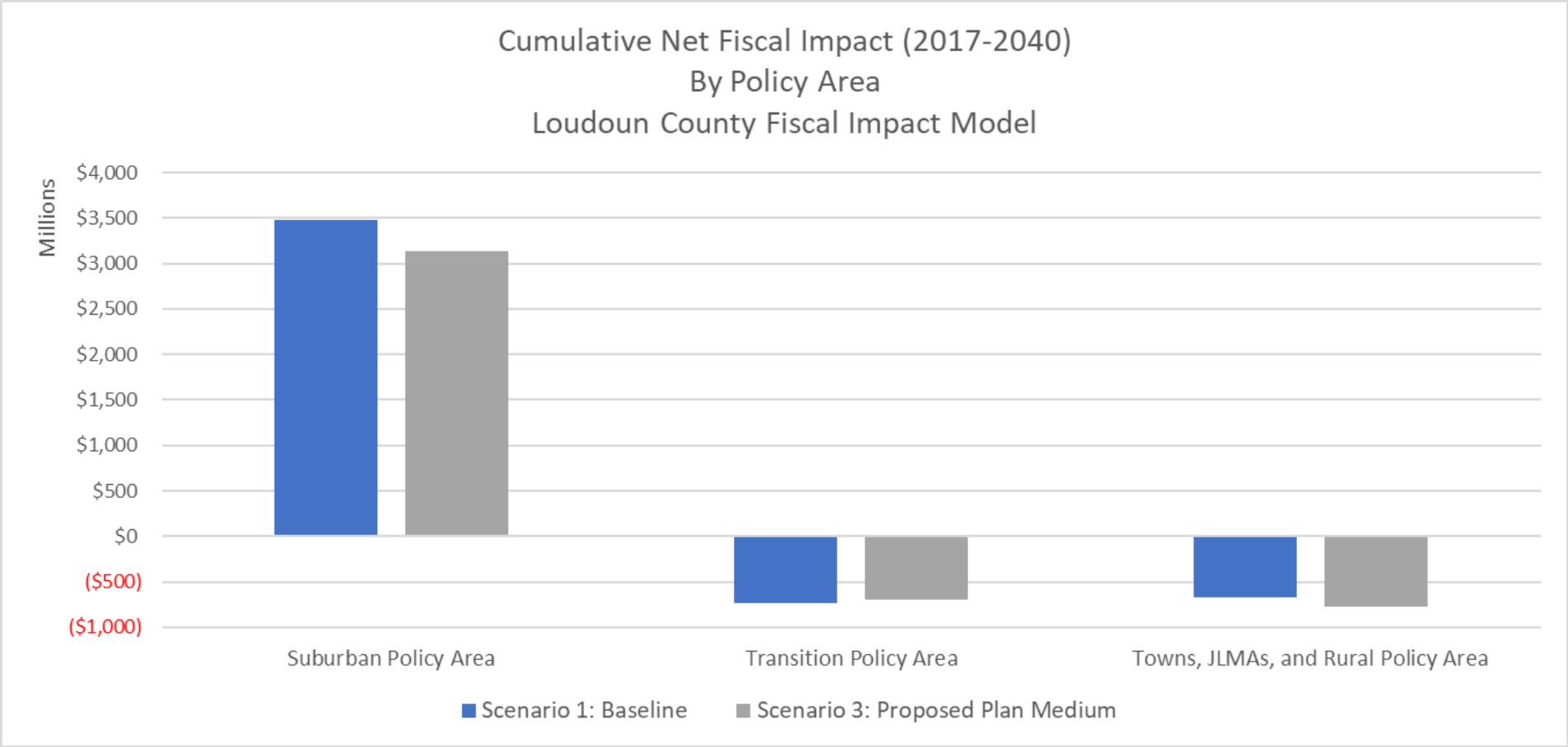


Geographies



Policy Areas: Net Fiscal Impact

- Cumulative Results



Suburban Policy Area: Baseline Revised General Plan vs. Proposed Plan Medium

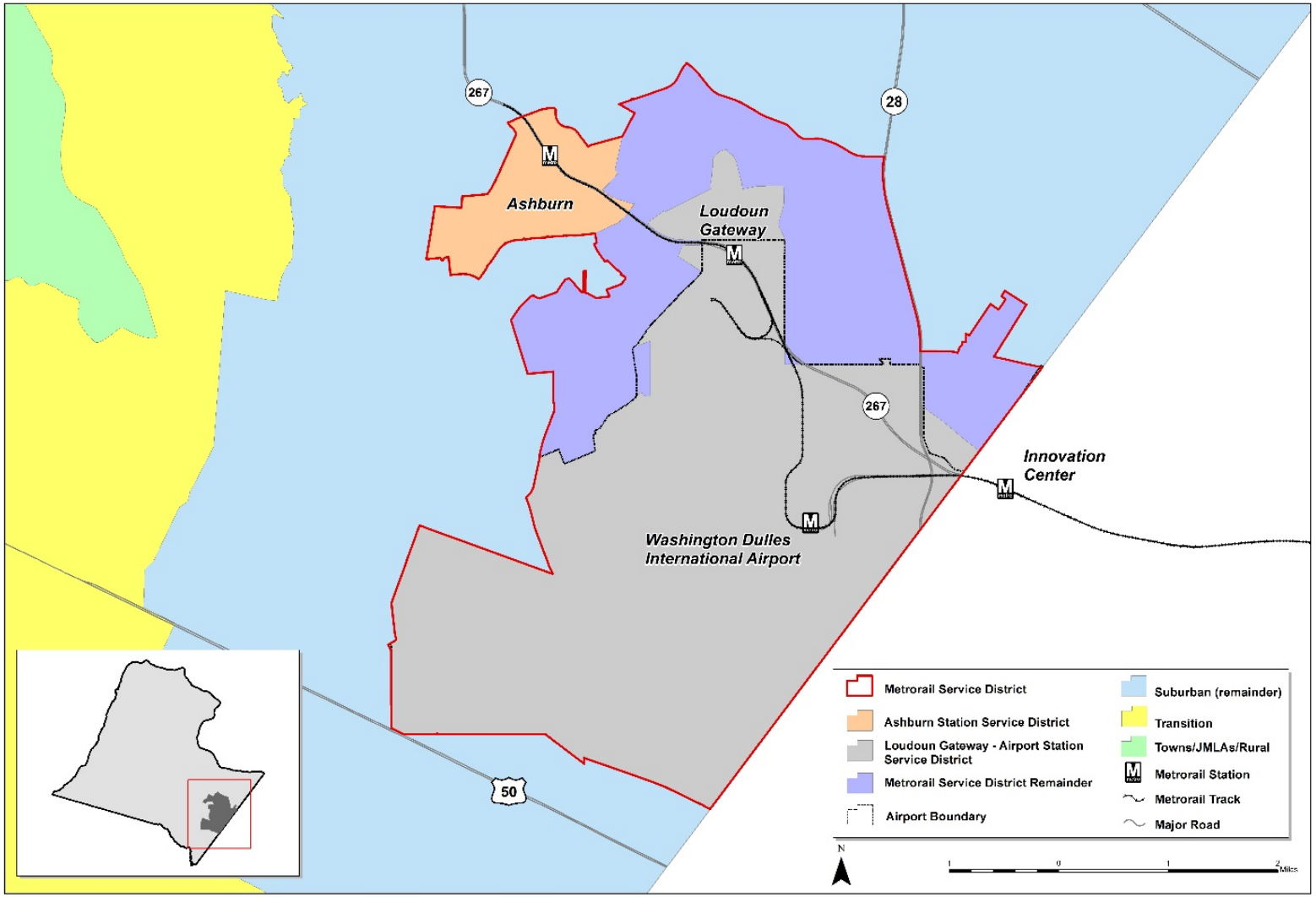
- Positive net fiscal results
- Sufficient revenue generated:
  - *Real and personal property tax revenue due to mix of land uses, particularly nonresidential*
  - *Capital offsets (proffers) included*
- Proposed Plan Medium is less positive than the Baseline:
  - *Higher operating and capital costs for schools from residential development*
  - *Higher capital costs for transportation improvements*
- All time periods produce positive fiscal impact results for both scenarios

Other Policy Areas: Baseline Revised General Plan vs. Proposed Plan Medium

- All scenarios produce negative net fiscal results
- Mix of land uses generate more costs than revenues, particularly residential without capital offsets (proffers)
- All time periods produce negative fiscal impact results except the first interval

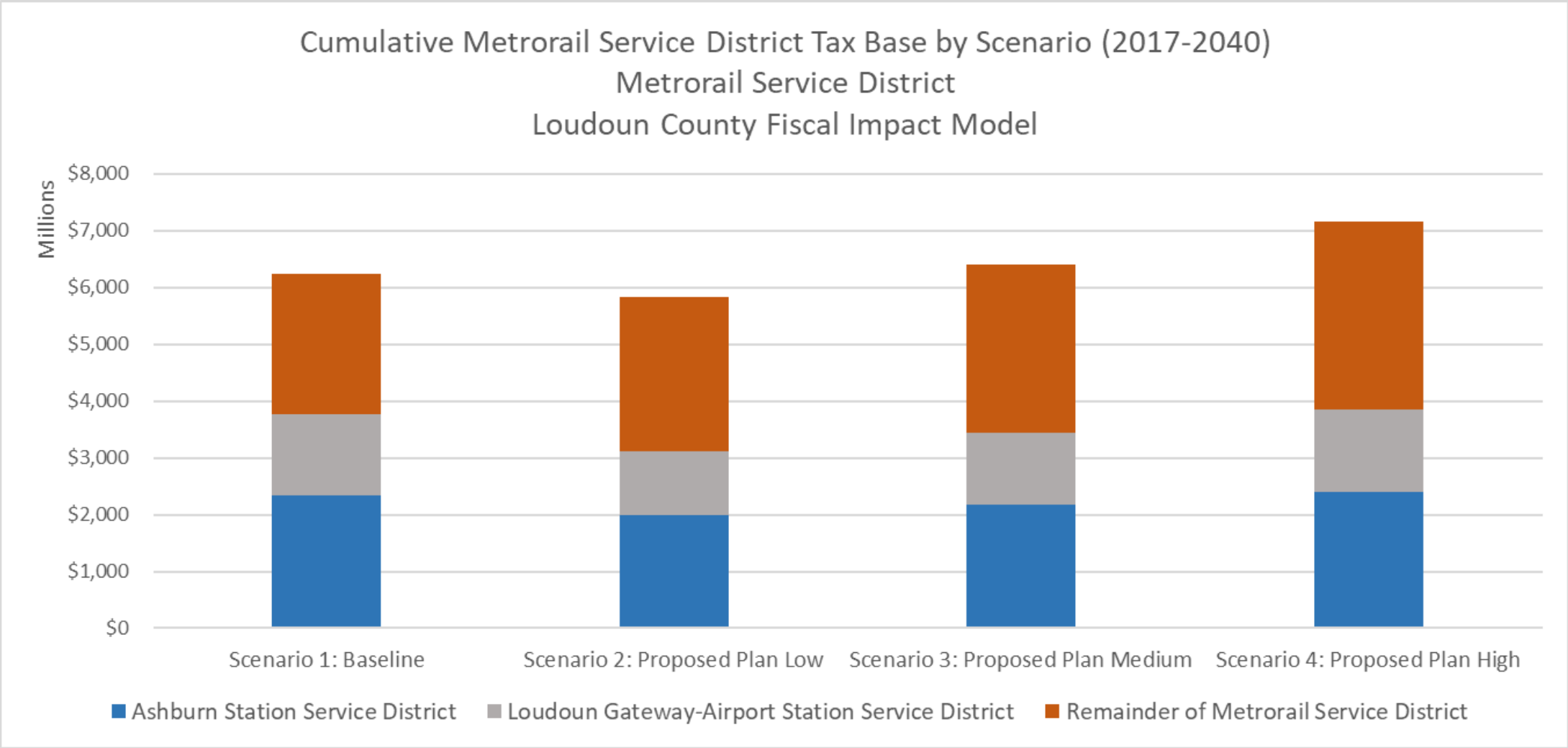
Metrorail Tax Districts

- Ashburn Station Service District
- Loudoun Gateway-Airport Station Service District
- Metrorail Service District
  - *Both Station Service Districts, plus additional area*

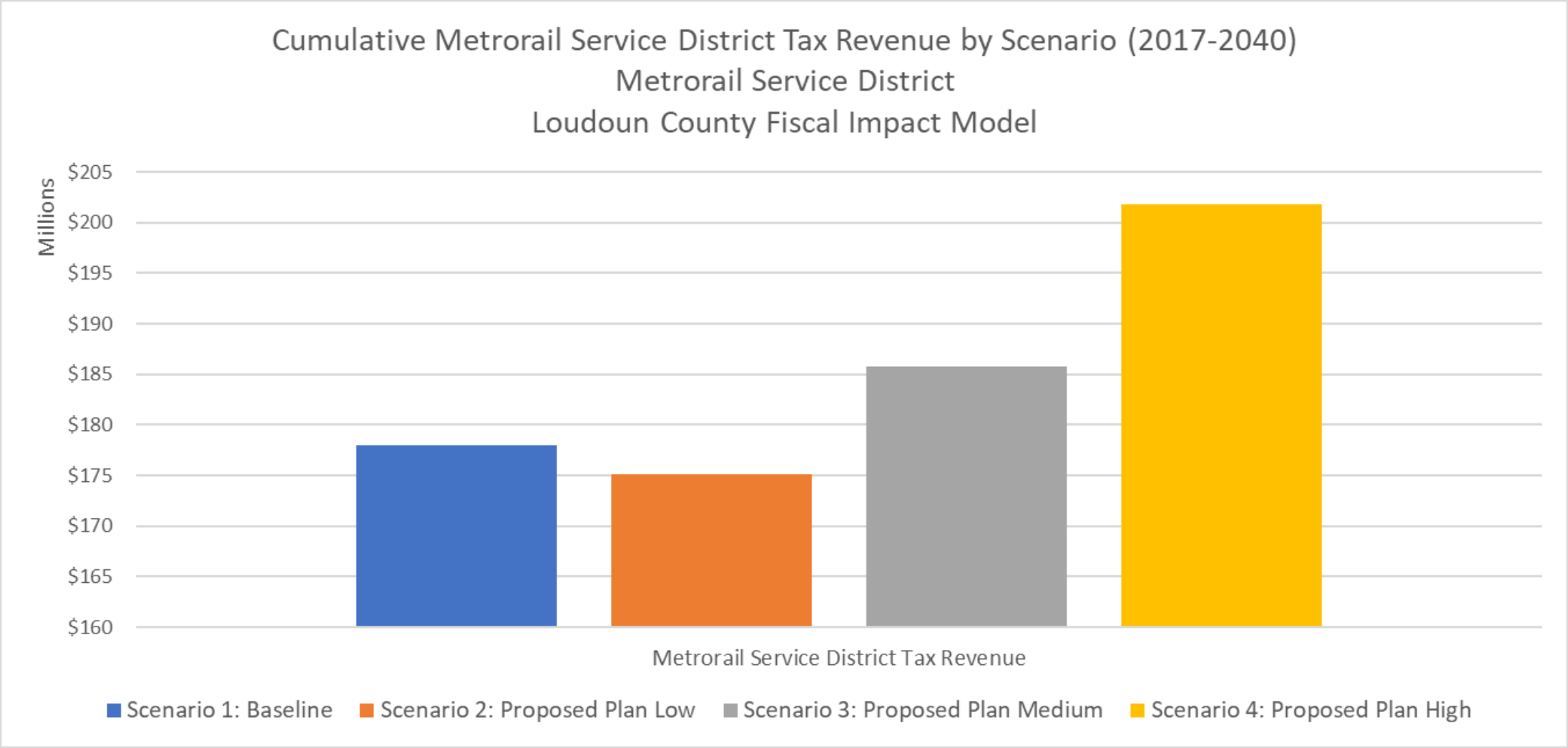


Loudoun County Office of Mapping and Geographic Information

Metrorail Service District: Tax Base



Metrorail Service District: Tax Revenues



Loudoun County Fiscal Impact Model

Main drivers

- **Local Revenue Structure**
  - *Real property tax is the single largest revenue source*
- **Demographic and Market Characteristics of New Growth**
- **Mix of Residential and Nonresidential Development**
- **Proffers Available to Offset Capital Costs**

Loudoun County Fiscal Impact Model

Results – Net Fiscal Impact

- **Suburban Policy Area & Metrorail Service District → +++**
- **Transition Policy Area & Remainder → --**
  - *Predominantly residential and no capital offsets*
- **<u>Countywide mix</u> of the areas → +**

Results – Metrorail Revenues

- **$6.3 billion tax base increase (RGP & Proposed Plan Medium)**
- **$180 million to $190 million tax revenues at $0.20 tax rate**

Fiscal and Economic Impacts of the Residential Sector

- Inform conversation of residential development as part of larger Comprehensive Plan discussions
- Understand fiscal and economic impacts from residential and nonresidential development and particularly from different types of residential units
- The study will explore themes such as:
  - *Best practices in fiscal impact analysis*
  - *Impact of factors such as the housing unit life cycle and the range of the number of public school children in different types of units*
  - *Impact of economic activity occurring in Loudoun as a result of the residential sector.*

Key Takeaways

- Proposed balance and mix of land uses produces fiscally positive results
- Proposed Plan Medium is less positive than the RGP due to increased operating and capital costs, mainly due to schools (operating and capital) and transportation (capital)
- While geographic subareas may produce fiscally negative results, the overall combination countywide is fiscally balanced.
- Proposed Plan Medium and RGP generate ~$6.3 billion in Metrorail tax base increase with ~$180 to $190 million in tax revenues at the current tax rate
- Research will continue on the economic and fiscal impact of residential development

Stakeholder Recommendations

- Are there changes you would like to make to the plan?

envision

LOUDOUN

our county • our future

Comprehensive Plan Stakeholders Committee Meeting

July 9, 2018

envision LOUDOUN
our county • our future

Stakeholder Committee Recommendations

June 18, 2018

Stakeholder's endorsed the recommendation to include the existing four Washington and Dulles International Airport runways and the location of the future fifth runway on Loudoun County 2040 Countywide Transportation Plan maps. (Vote: twenty (20) "Yes" and two (2) "No")

This recommendation has been added to the Staff Recommendations

Countywide Transportation Plan (CTP) & Travel Demand Model

July 9, 2018 | Comprehensive Plan Stakeholders Committee

envision LOUDOUN
our county • our future

CTP Development & Evaluation

- Modifications made from currently adopted CTP to address Envision Loudoun proposed land use
- Travel demand modeling exercise was used to evaluate the performance of the transportation network with the proposed land use plan
- Loudoun County Model is based on the Metropolitan Washington Council of Governments (MWCOG) travel demand model, a regional model covering all or part of more than 15 jurisdictions in Virginia, Maryland and the District of Columbia.

Travel Demand Modeling Overview

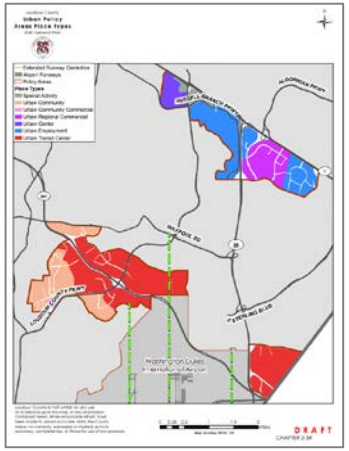
- Predictive model used to forecast travel behavior and demand for a specific time frame
- Provides link-level analysis to inform planning decisions
- Travel Demand Model Steps
  - ***Trip Generation*** *– the number of trips to be made based on land use data (population and employment)*
  - ***Trip Distribution*** *– where the trips are going*
  - ***Mode Choice*** *– how the trips will divide among the available travel modes*
  - ***Trip Assignment*** *– predicting the route trips will take (based on distance, capacity, tolls)*

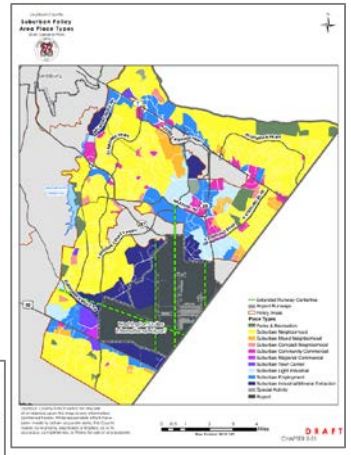
Travel Demand Modeling Overview

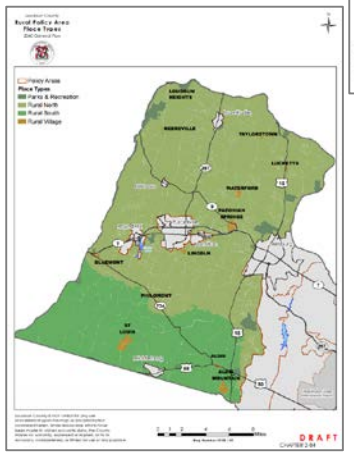
- Travel Demand Model Components
  - ***Roadway Network –*** *incorporates attributes such as number of lanes, functional class, speeds, and tolls*
  - ***Traffic Analysis Zones (TAZs) –*** *geographic unit used to create trips*
  - ***Socioeconomic Data*** *– population and employment data that is assigned to each TAZ*
  - ***Other inputs –*** *park and ride lot data, airports, external stations (locations on the edge of the network),which are obtained from the MWCOG model*

Travel Demand Modeling Process

Land Use Plan



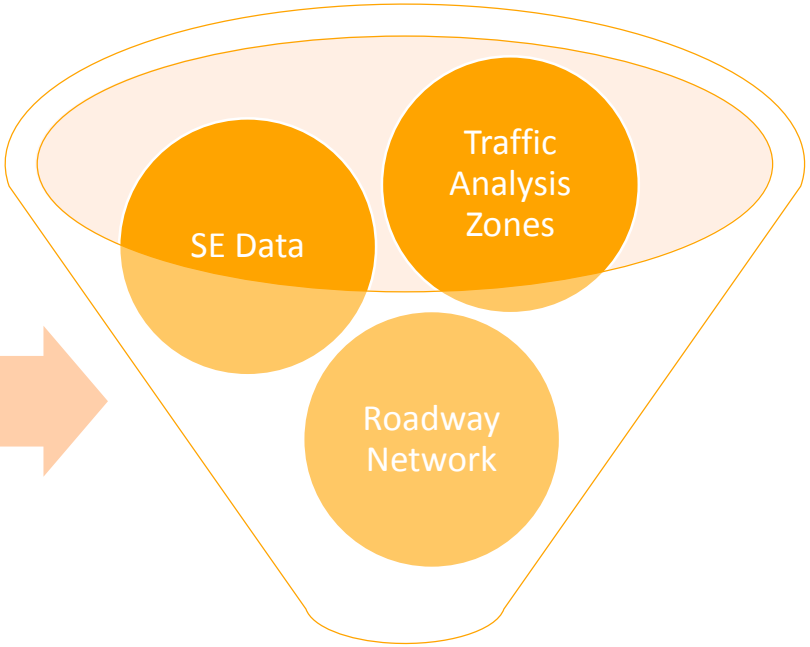




Population

Employment

Socioeconomic (SE) Data



Travel Demand Model Outputs

Travel Demand Modeling Outputs

- The outputs of the model help inform decisions on capacity of the network as a whole, and the performance of specific facilities
- Outputs include:
  - *Highway traffic volumes*
  - *Volume-to-capacity ratios*

CTP Scenarios

- Envision Loudoun Land Use + Proposed Loudoun 2040 CTP Network
- Revised General Plan Land Use + Proposed Loudoun 2040 CTP Network
- Revised General Plan Land Use + Currently Adopted 2010 CTP Network

Envision Loudoun Scenario Results

Rural Policy Area Capacity Constraints

- ***Route 9*** *- west of Hillsboro, east of Route 287*
- ***Route 287*** *north of Purcellville*
- ***US Route 15*** *- Montresor Road to the Maryland Line*
- ***Route 7*** *- Round Hill to Purcellville*
- ***US Route 50*** *near Middleburg and Aldie*
- ***US Route 15*** *south of US Route 50 into Prince William County*

Transition Policy Area Capacity Constraints

- ***US Route 50*** *between US Route 15 and Northstar Boulevard*
- ***Braddock Road*** *between US Route 15 and Northstar Boulevard*
- ***Gum Spring Road*** *at the Prince William County line*

Envision Loudoun Scenario Results

Urban & Suburban Policy Area Capacity Constraints

- ***Route 7*** *- Belmont Ridge Road to the Fairfax County Line*
    - *Capacity remains available on parallel routes such as the Dulles Greenway, Gloucester Parkway, Riverside Parkway, and Russell Branch Parkway.*
- *Connections around the* ***future Metrorail Stations***
    - *Including: Loudoun County Parkway, Metro Center Drive, Barrister Street, Route 606, and Moran Road.*
- *The capacity constraints present on* ***Route 28*** *and the intersecting roadways such as* ***Waxpool Road, Gloucester Parkway****, and* ***Route 7*** *suggest that travel demand may be avoiding the Dulles Greenway.*

Envision Loudoun Model & Currently Adopted Model

- Consistent constraints between both models
  - *Route 7 and Route 28*
  - *Arcola Boulevard/ Gum Spring Road Corridor*
  - *US 50/ US Route 15 Intersection*
  - *Rural Corridors*
- Improvement with Envision Loudoun Model
  - *Route 606 constraints are improved by additional lane capacity between Loudoun County Parkway and Dulles Greenway (6 lanes in current CTP to 8 lanes in Envision Loudoun)*

CTP Conclusions

- *The proposed CTP network consists of improvements to an already robust transportation plan that largely addresses the travel demands of the Envision Loudoun land use plan*
- *Limited access and capacity improvements on Route 7, US Route 50, Route 606 enable corridors to operate with few constraints*
  - *Parallel routes to these major arterials have capacity as well*
- *Growth and travel demand in neighboring jurisdictions create constraints along rural arterials*

CTP Conclusions

- Rural Primary Roadway Recommendations
  - *No changes are currently proposed to add additional capacity to rural primary corridors in the draft Loudoun 2040 CTP.*
  - *The draft Loudoun 2040 CTP reflects the currently adopted CTP for US Route 15 between Leesburg and Montresor Road, incorporating the four-lane widening approved by the Board in March 2018.*
  - *Rural primary routes will be further evaluated based Board of Supervisors directed Safety and Operational Studies (SOS). This includes the ongoing study for US Route 15 north of Leesburg and the recently authorized (July 3, 2018) studies for Route 9 and US Route 15 south of Leesburg.*
  - *Future Safety and Operational Studies are anticipated to be funded in future fiscal years for US Route 50, Route 287, and Route 7 west of Round Hill.*

Questions?

envision

LOUDOUN

our county • our future

Next Steps

July 12
Briefing for Planning Commission

July 19
Delivery of Draft *Loudoun 2040 Comprehensive Plan* to Board of Supervisors

August 9
Planning Commission Work Sessions Begin

THANK YOU!

envision LOUDOUN
our county • our future

envision

LOUDOUN

our county • our future