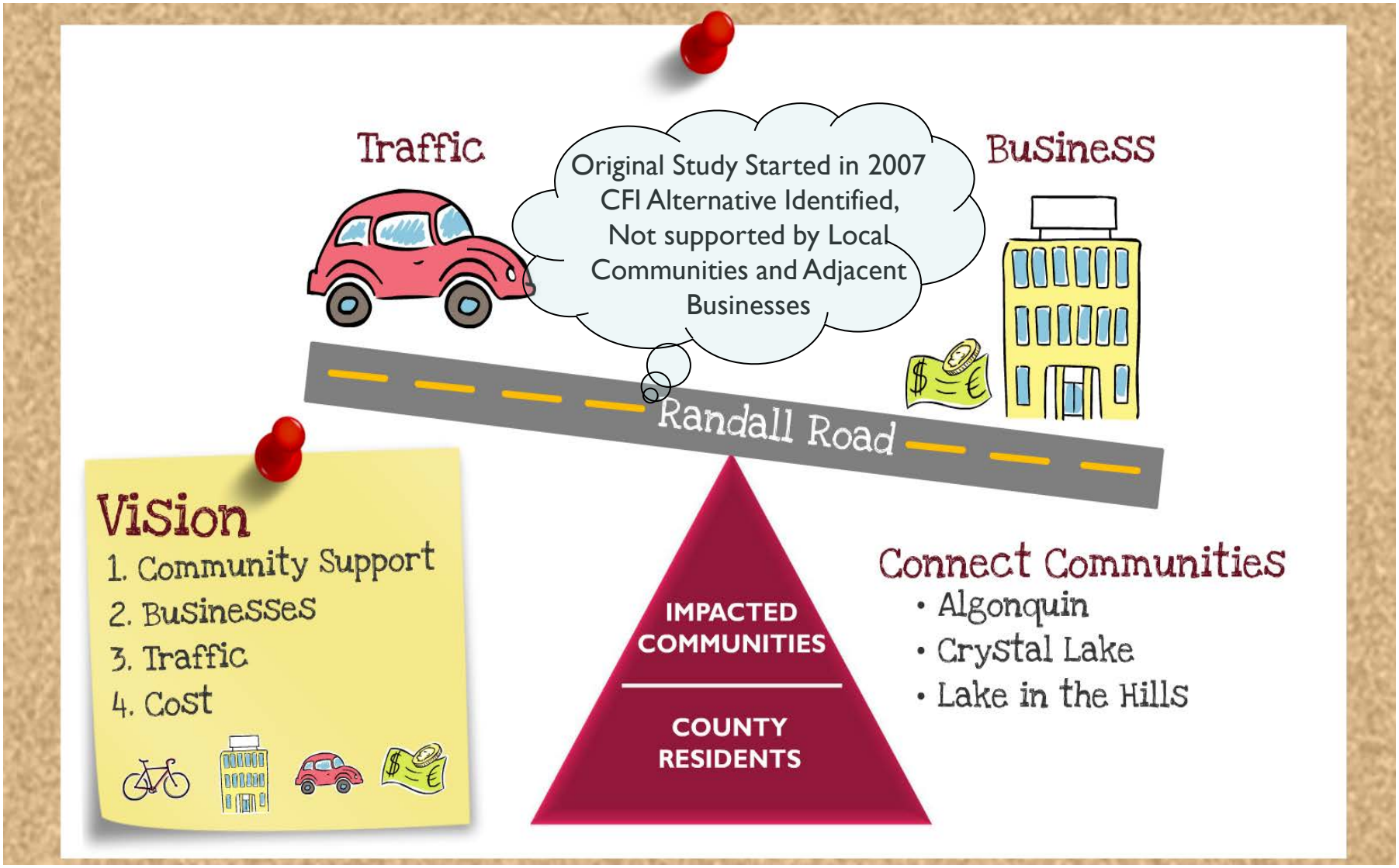
# Project History



# Project Limits

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# Project Goals

- Safe and Efficient Travel
- Facilitate Commerce
- Sound Fiscal Investment




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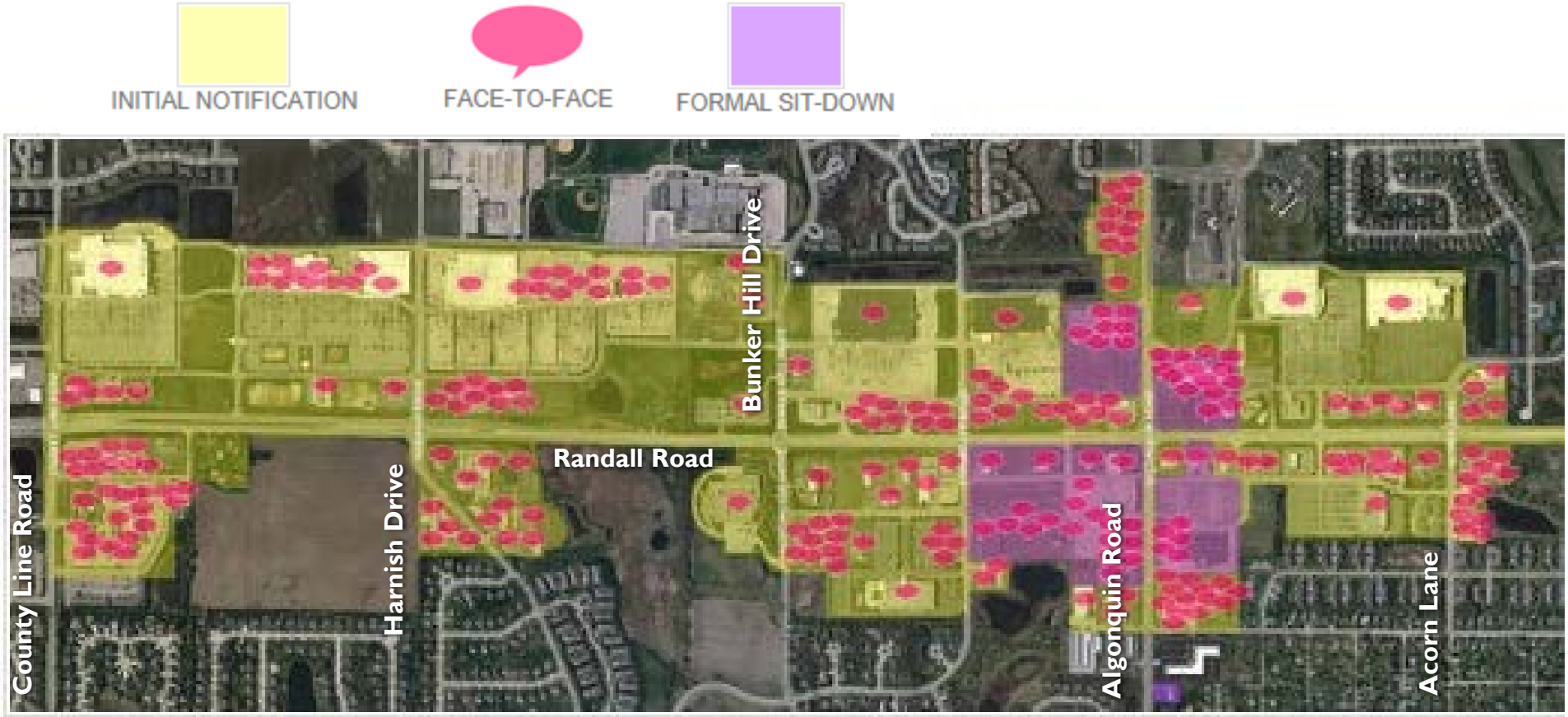
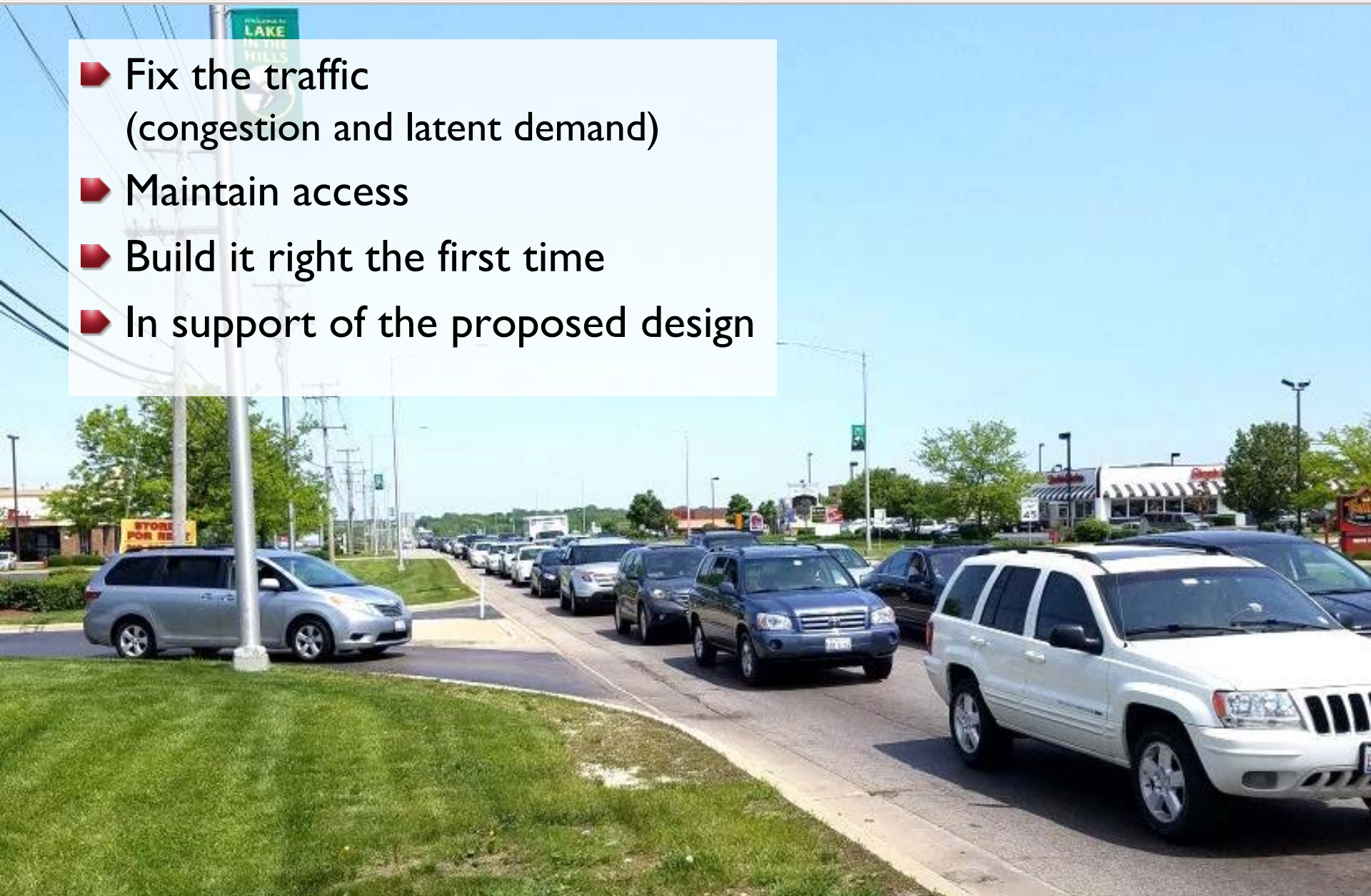
# Community Outreach

- Over 100 mailings to property owners
- Over 300 flyers hand delivered to businesses
- Over 20 individual follow up meetings

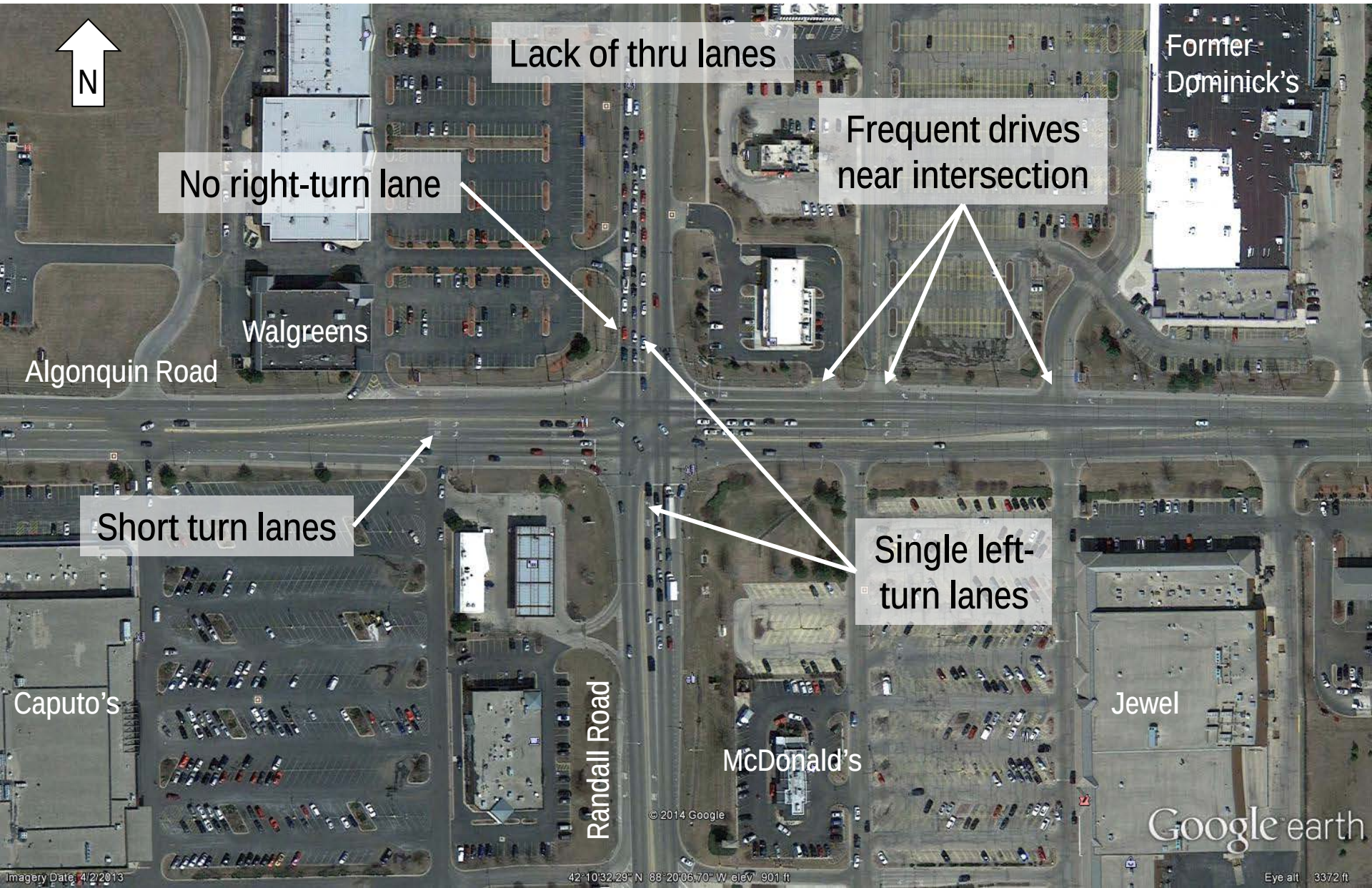


# Community & Business Input



- Fix the traffic
  (congestion and latent demand)
- Maintain access
- Build it right the first time
- In support of the proposed design

# Existing Operational Issues



# Safety – 288 crashes last year

# Safety

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# NB Randall: Harnish to Algonquin, Friday May 5th

# SB Randall: Miller to Algonquin, Saturday May 21st

# SB Randall: Miller to Algonquin, Saturday May 21st




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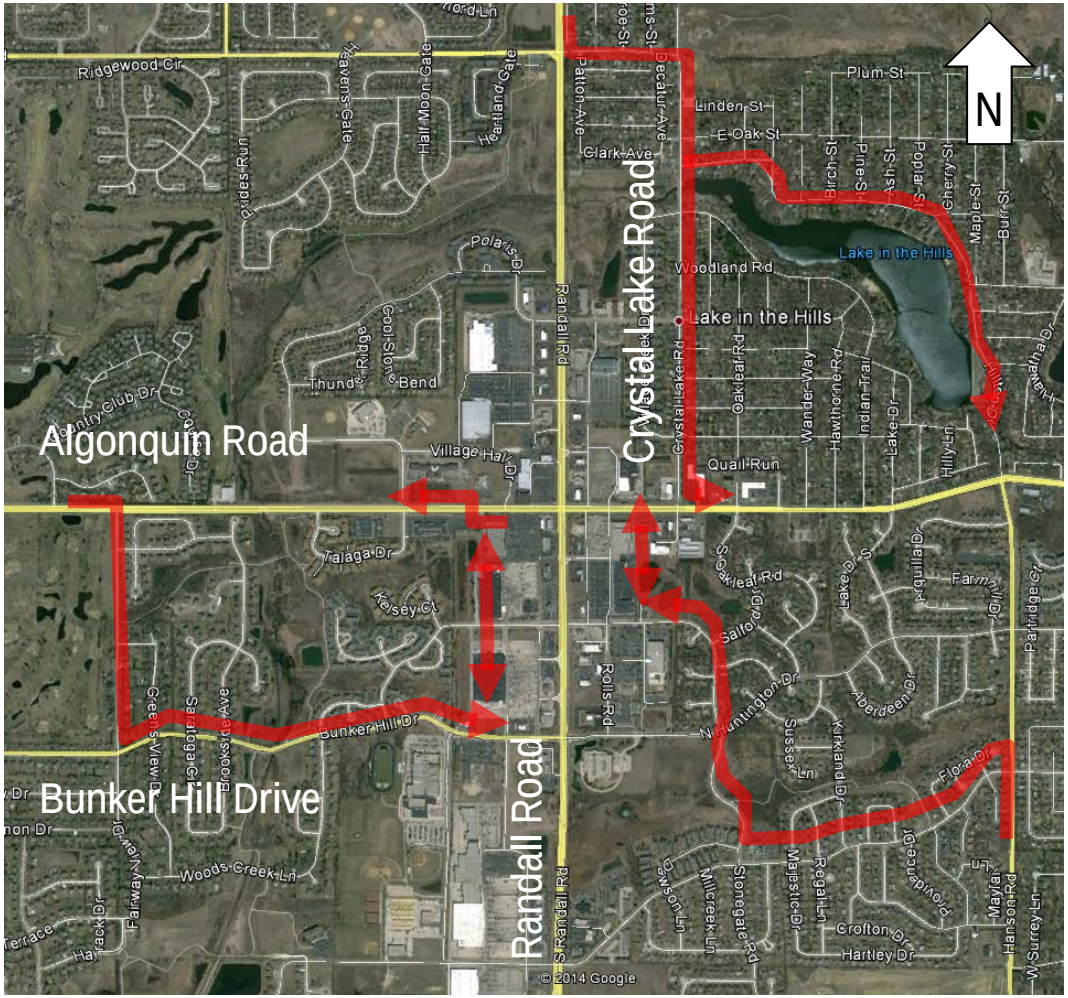
# EB Algonquin: Harvest Gate to Randall, Friday May 20th

# WB Algonquin: Crystal Lake to Randall, Friday May 13th

# Negative Impacts of Capacity Deficiencies

- Long Delays/Travel Times
  - Frustration
  - Pollution
- By-Pass Traffic
  - Added Congestion on Other Roadways
  - Neighborhood Cut-Through
  - Parking Lot Cut-Through
  - Excess Wear and Tear
- Less Customers to Businesses



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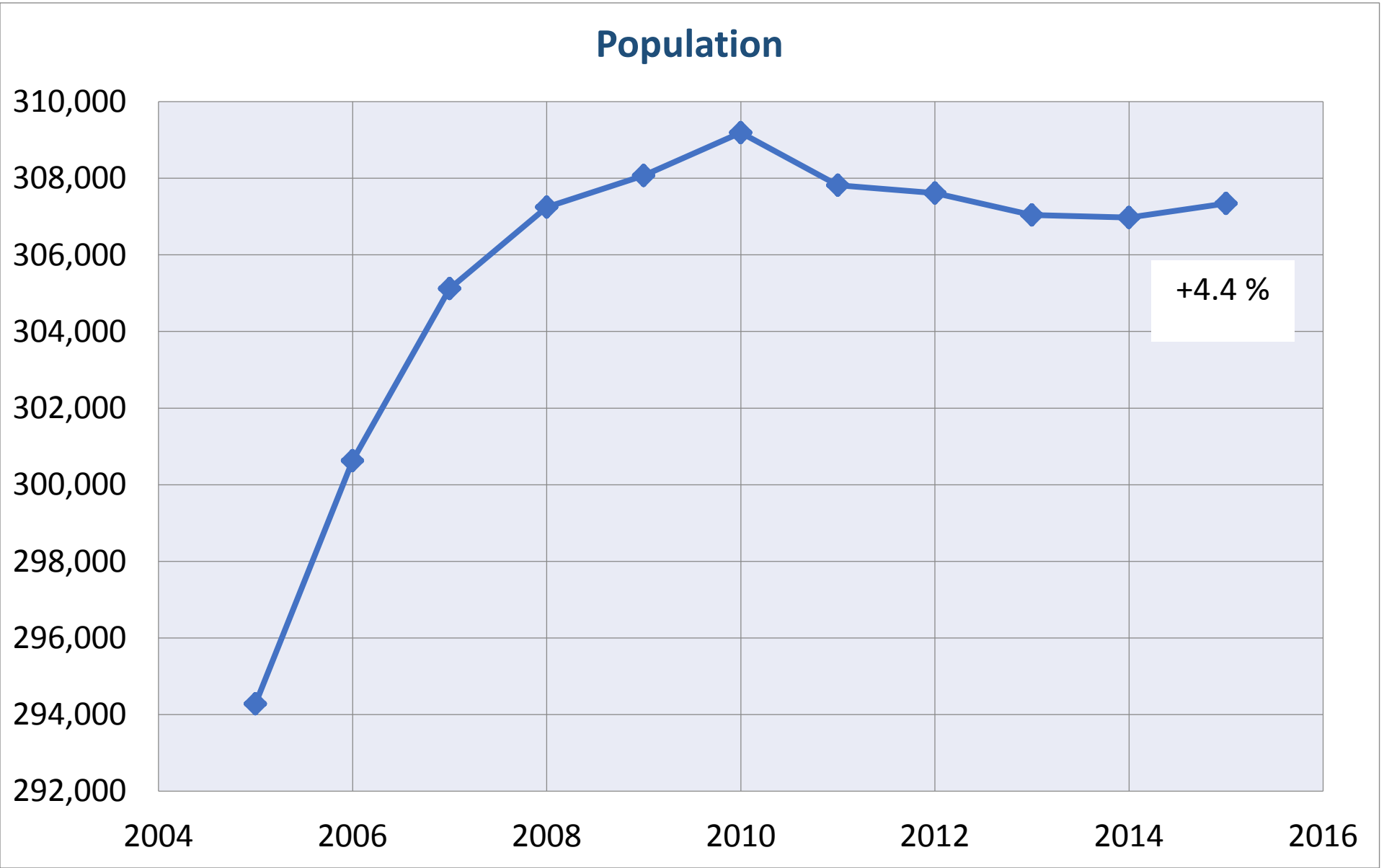
# Harvest Gate back-up from cut through traffic

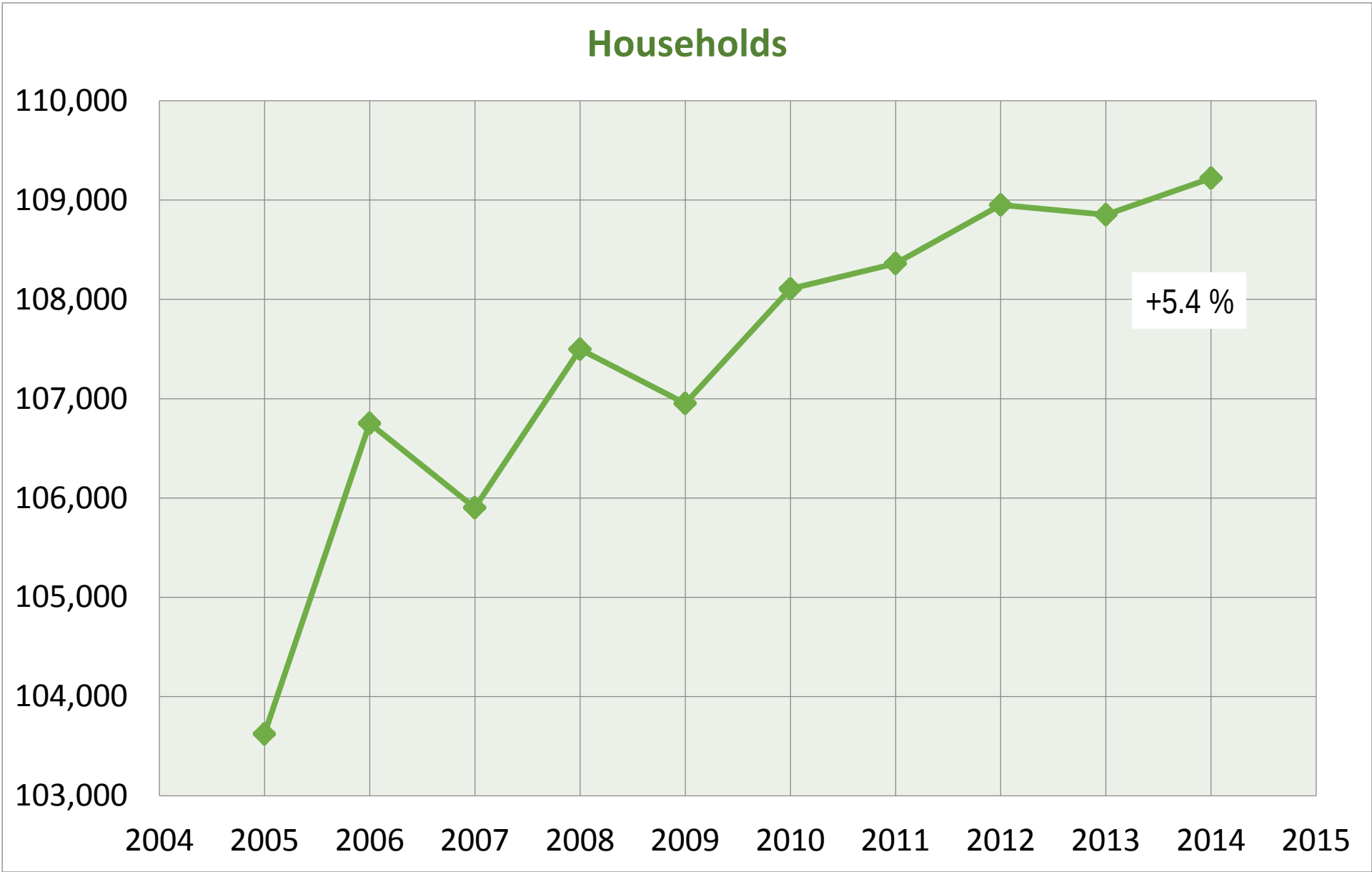
# Cut Thru Traffic

# Questions/Discussion

# Traffic Projection Factors: It's Not Just Population



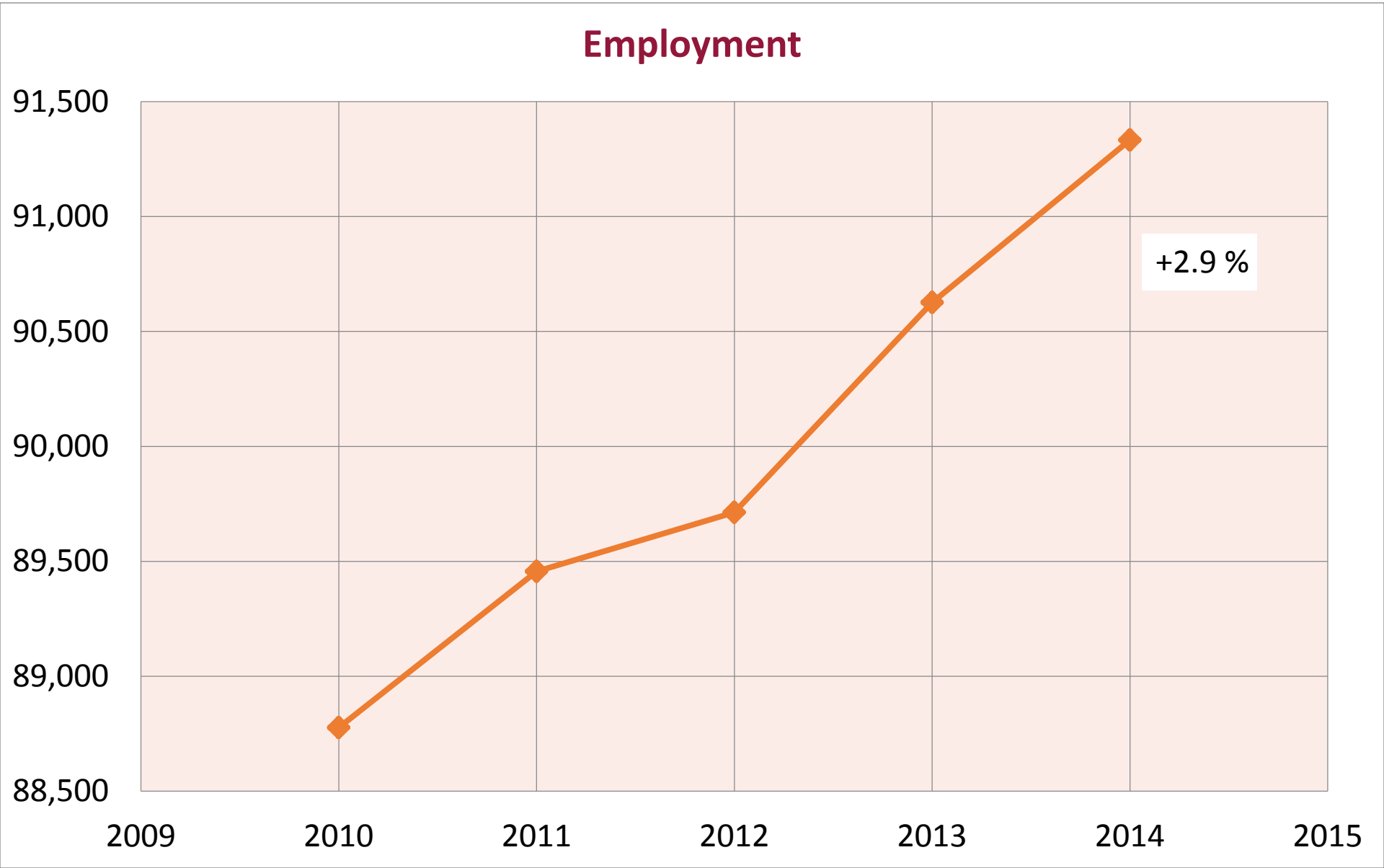
# Traffic Projection Factors: It's Not Just Population



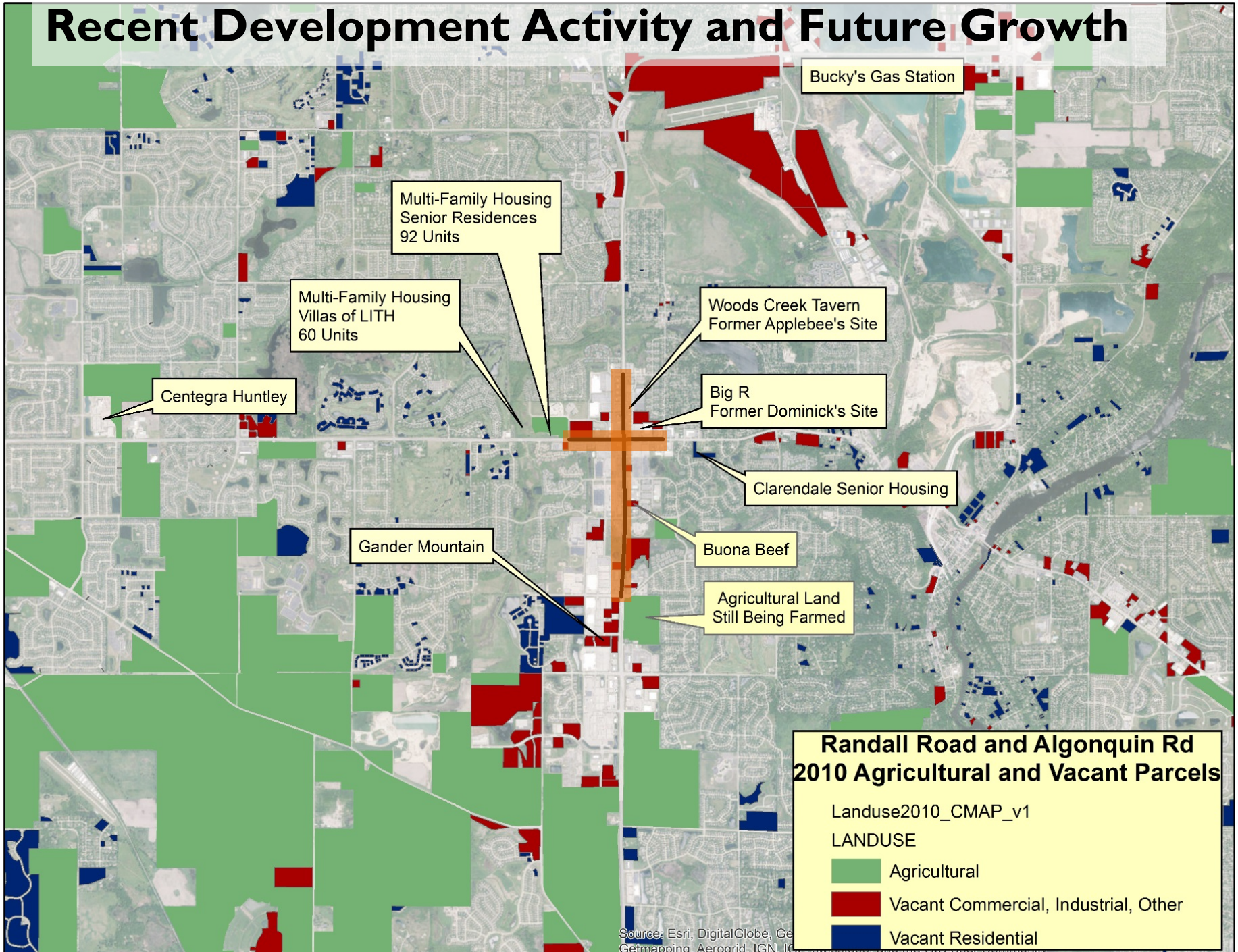
# Traffic Projection Factors: It's Not Just Population

| AVERAGE HOUSEHOLD SIZE | | | | | | |
|---|---|---|---|---|---|---|
| **Population** | **Average Household Size** | | **Households** | | **Difference** | |
| | 2005 | 2014 | 2005 | 2014 | Number | Percent |
| 300,000 | 2.92 | 2.80 | 102,740 | 107,143 | 4,403 | 4.3% |

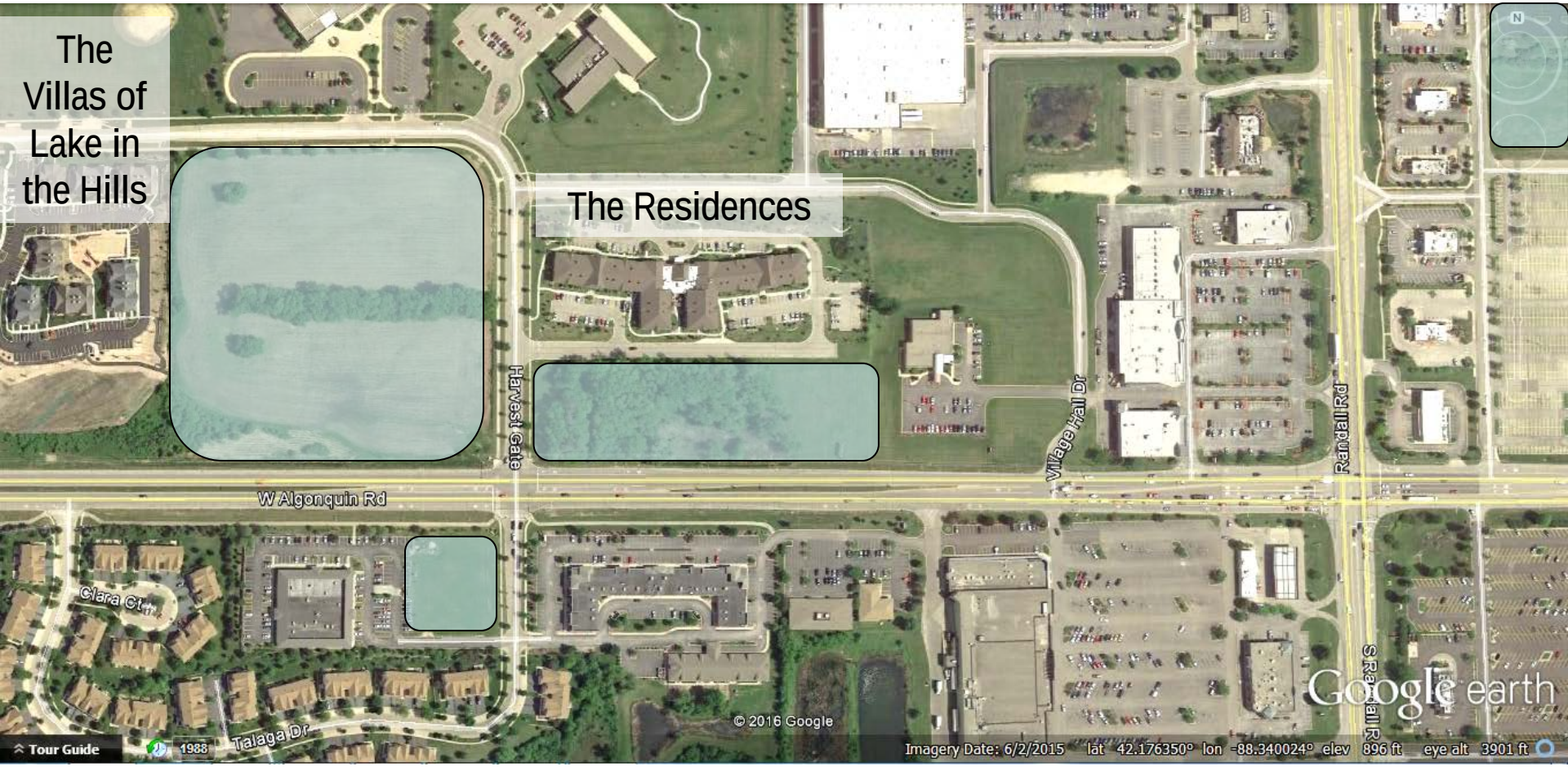
# Traffic Projection Factors: It's Not Just Population



# Recent Development Activity and Future Growth



# Recent Development Activity and Future Growth



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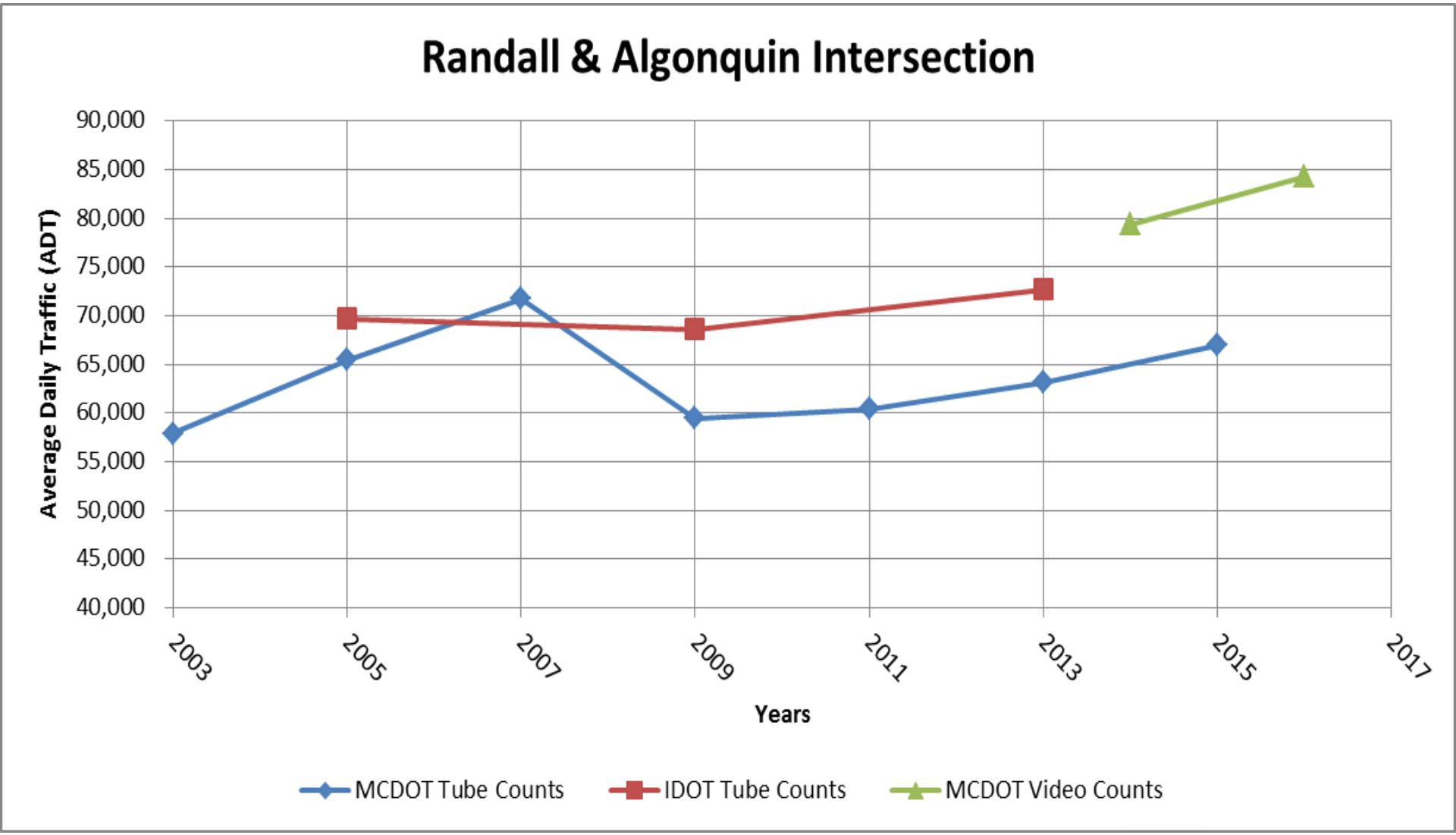
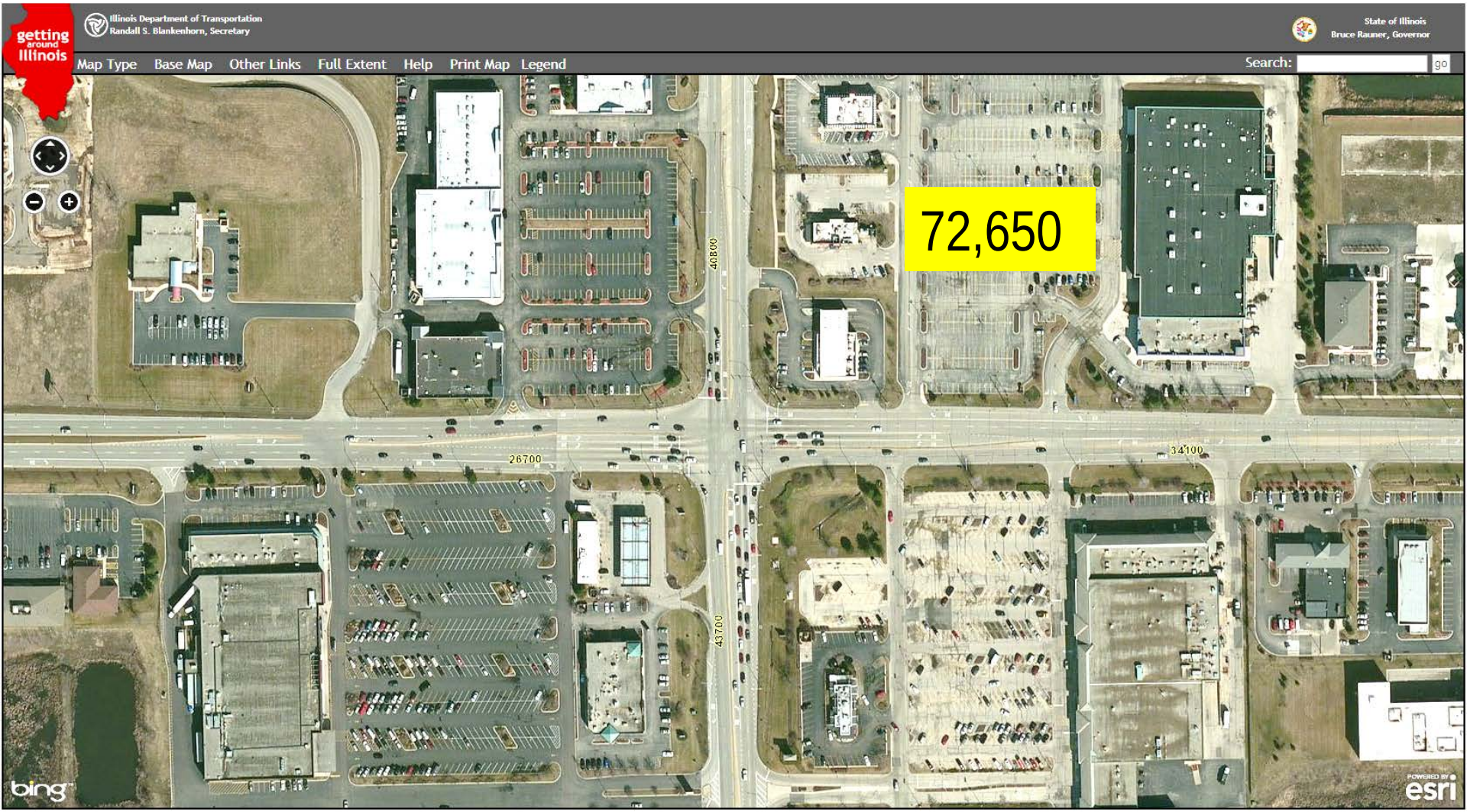
# Average Daily Traffic (ADT)



# Randall at Algonquin ADT



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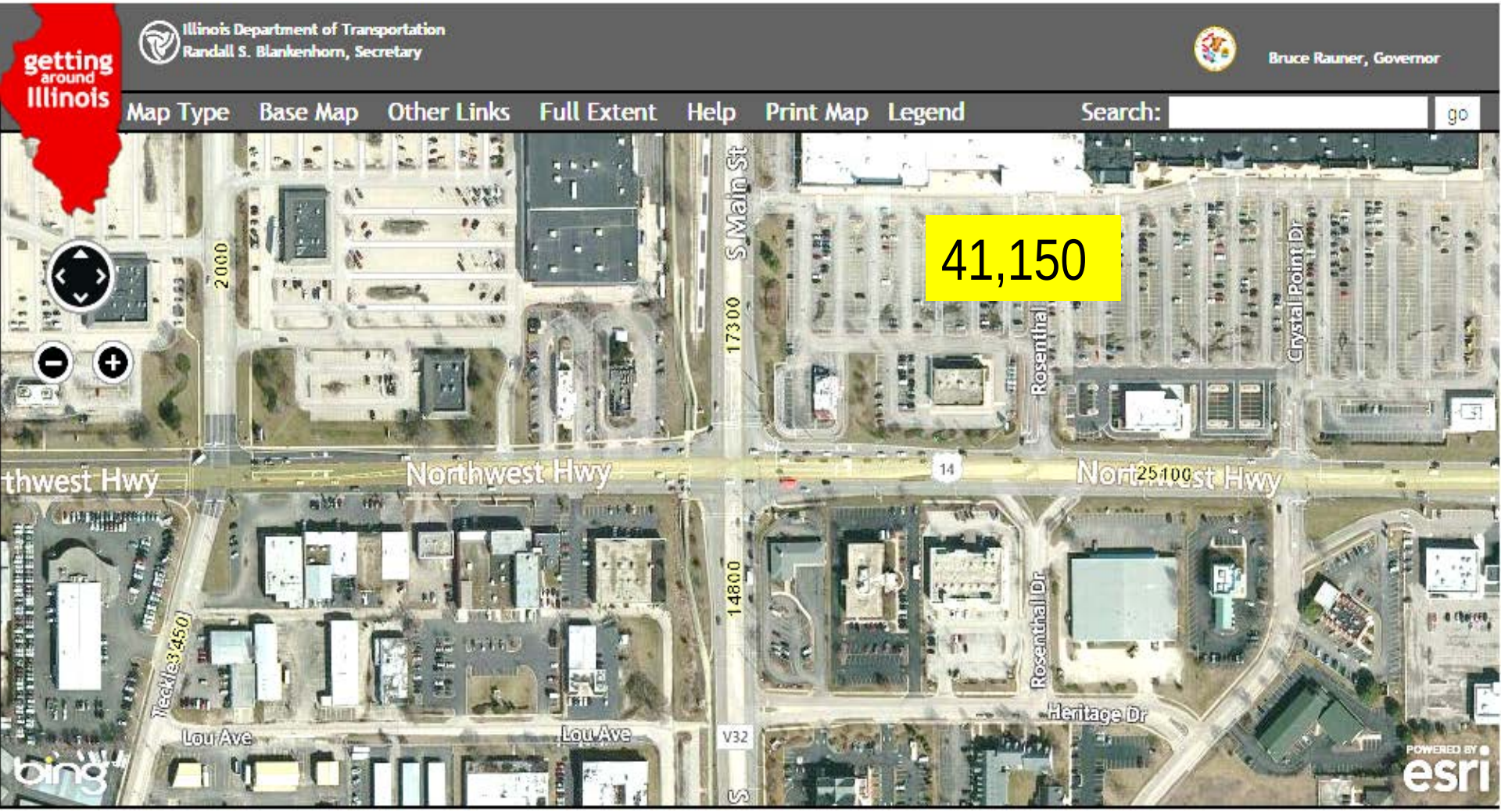
# Comparable Intersections – Main at Northwest Hwy



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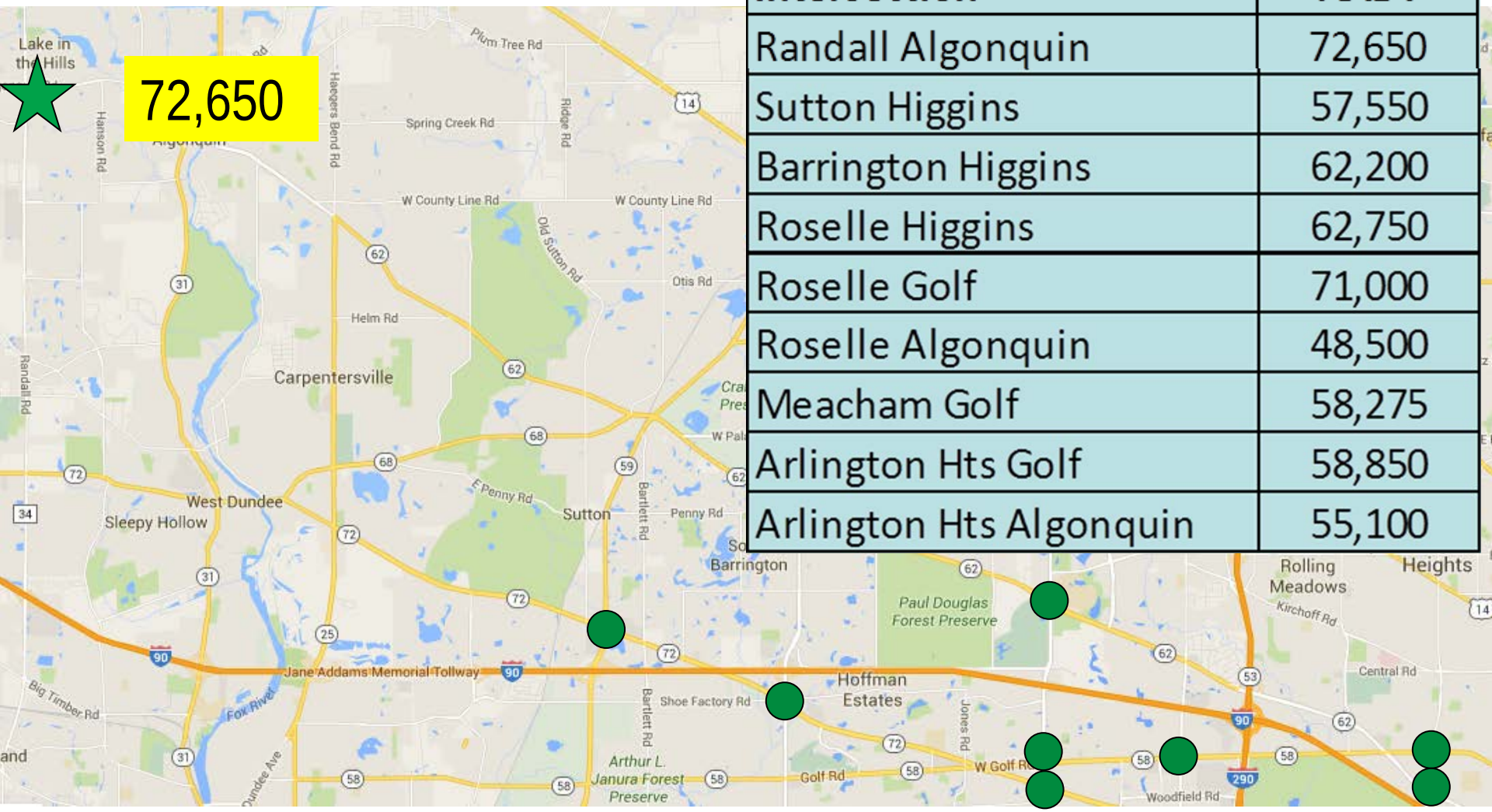
# Comparable Intersections

| Intersection | AADT |
|---|---|
| Randall Algonquin | 72,650 |
| Sutton Higgins | 57,550 |
| Barrington Higgins | 62,200 |
| Roselle Higgins | 62,750 |
| Roselle Golf | 71,000 |
| Roselle Algonquin | 48,500 |
| Meacham Golf | 58,275 |
| Arlington Hts Golf | 58,850 |
| Arlington Hts Algonquin | 55,100 |



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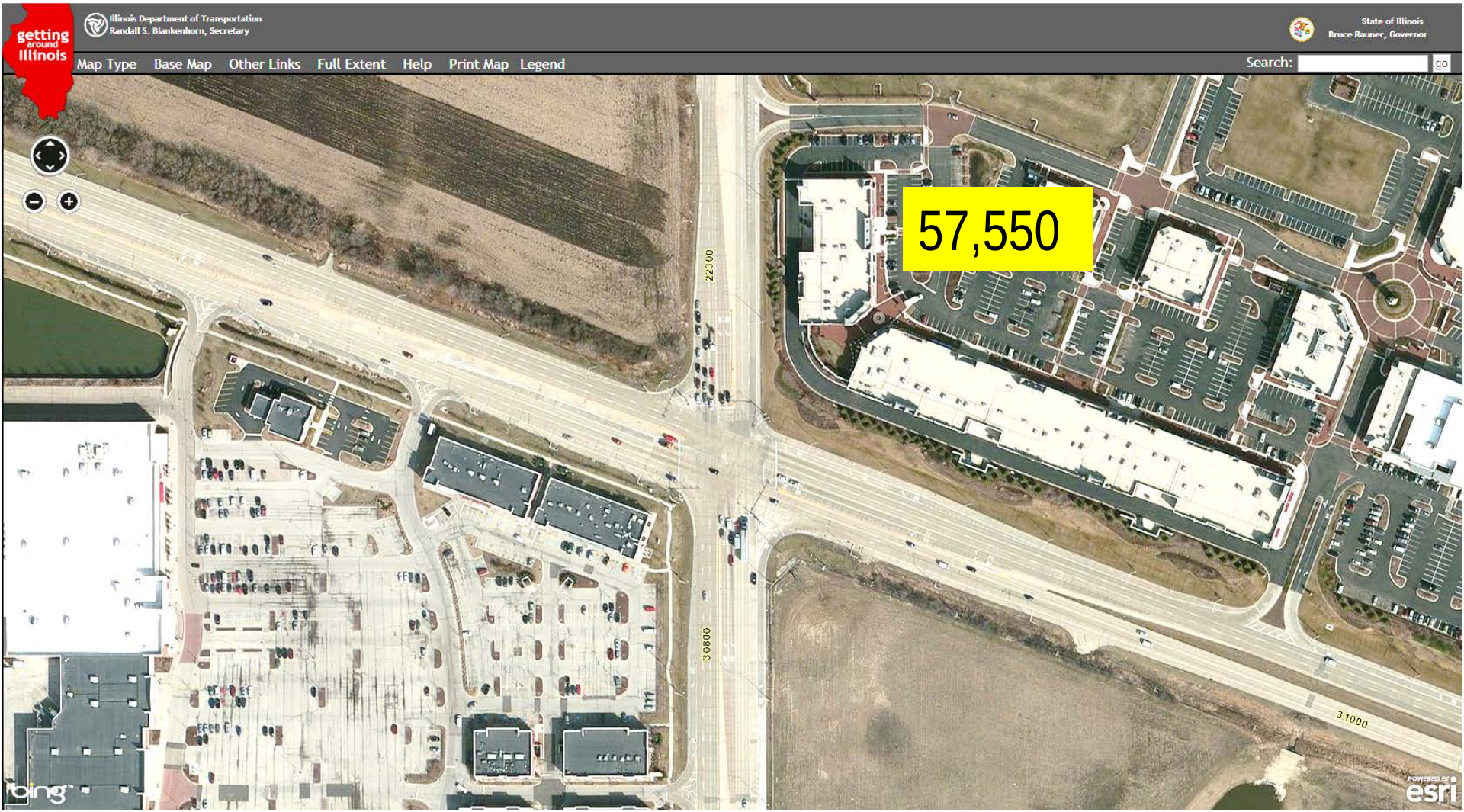
# Comparable Intersections – Sutton at Higgins



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# Comparable Intersections – Barrington at Higgins




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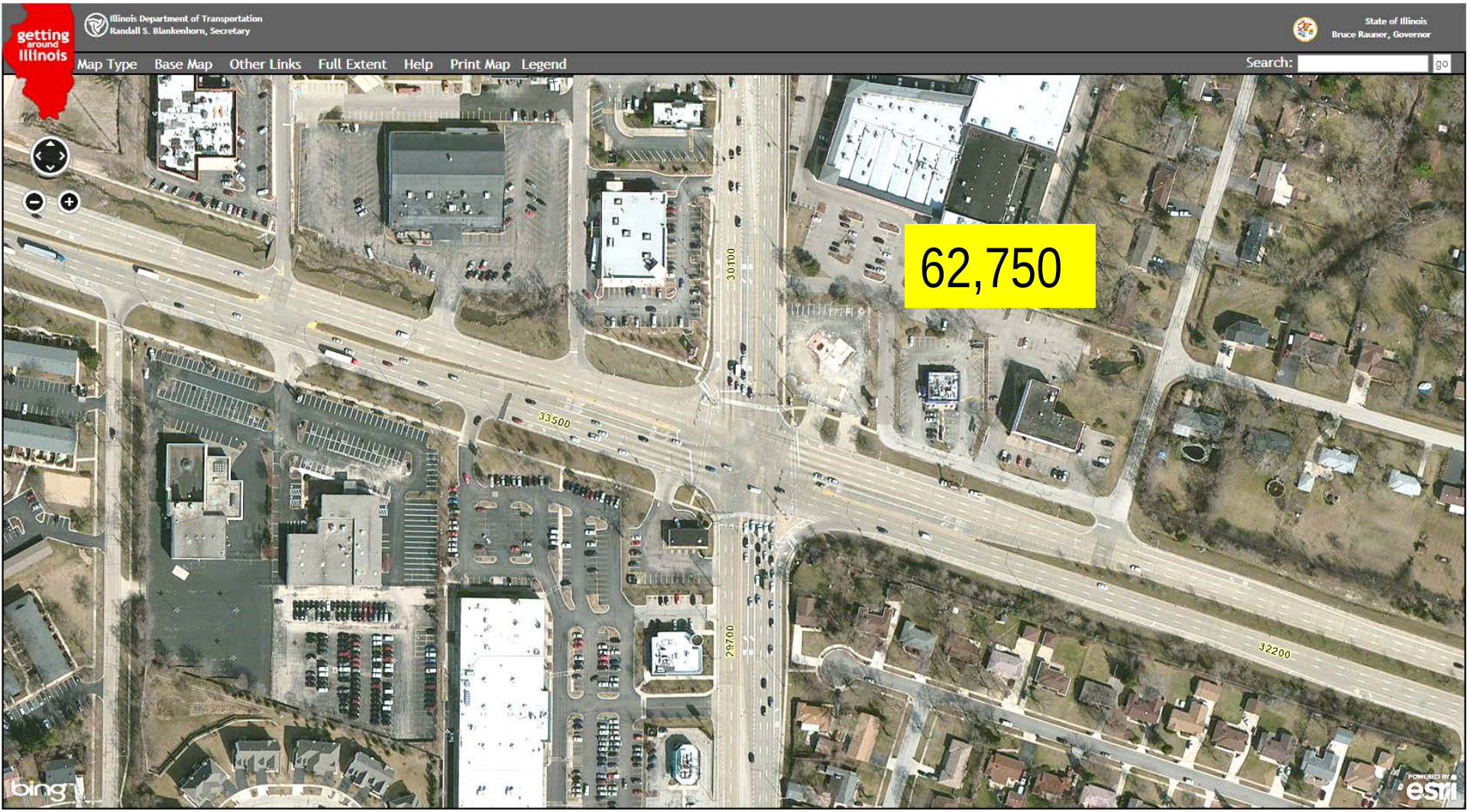
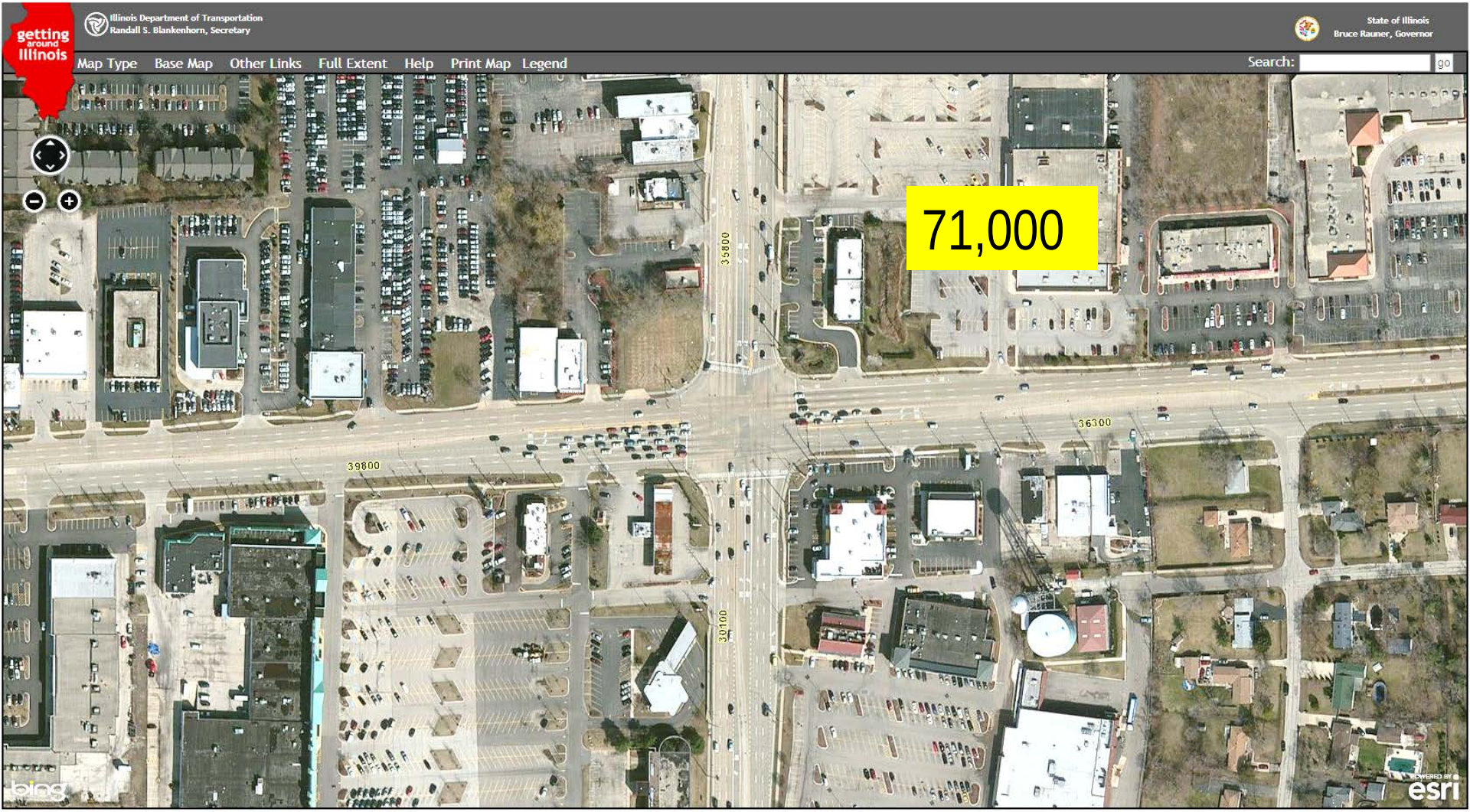
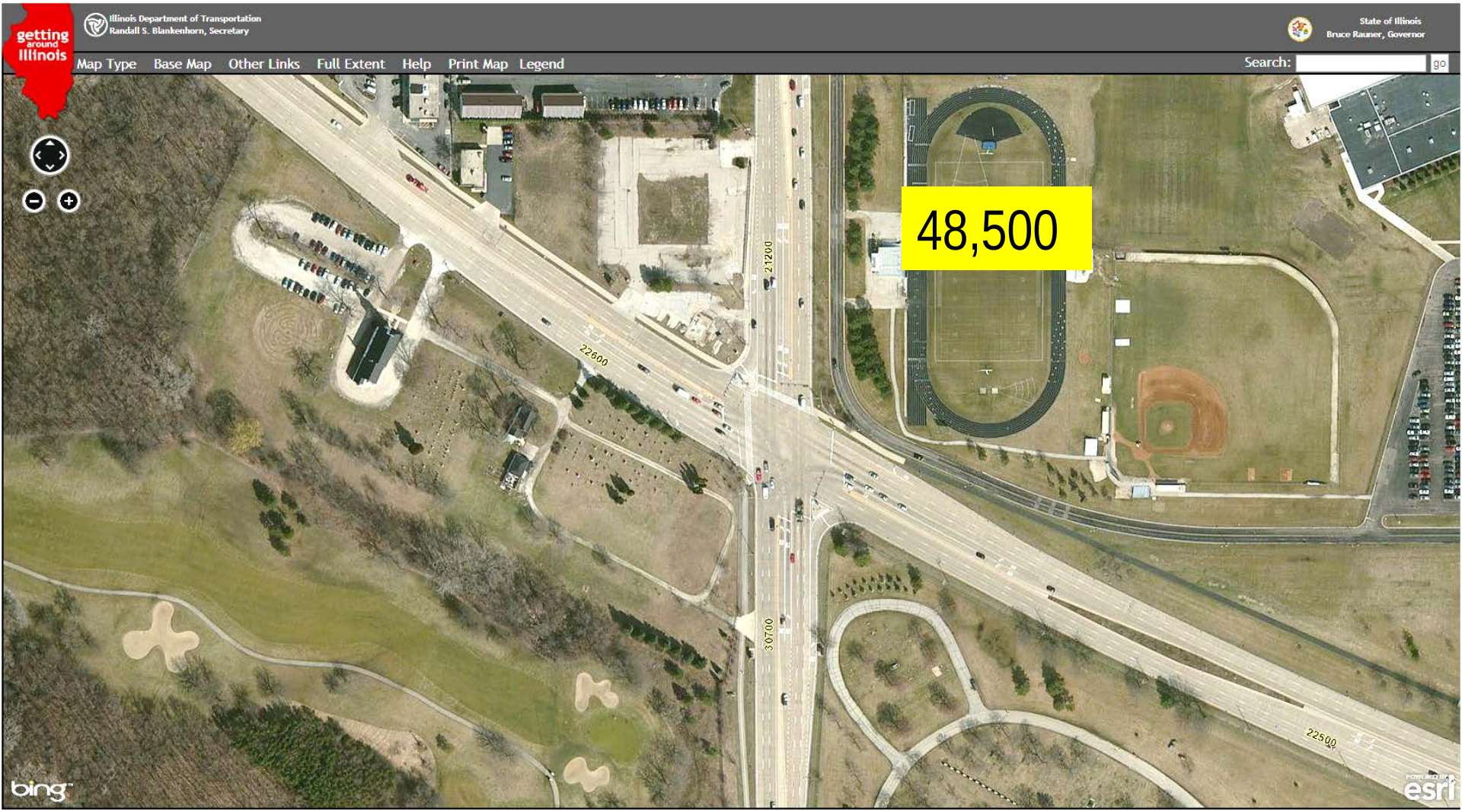
# Comparable Intersections – Roselle at Higgins



# Comparable Intersections – Roselle at Golf



# Comparable Intersections – Roselle at Algonquin



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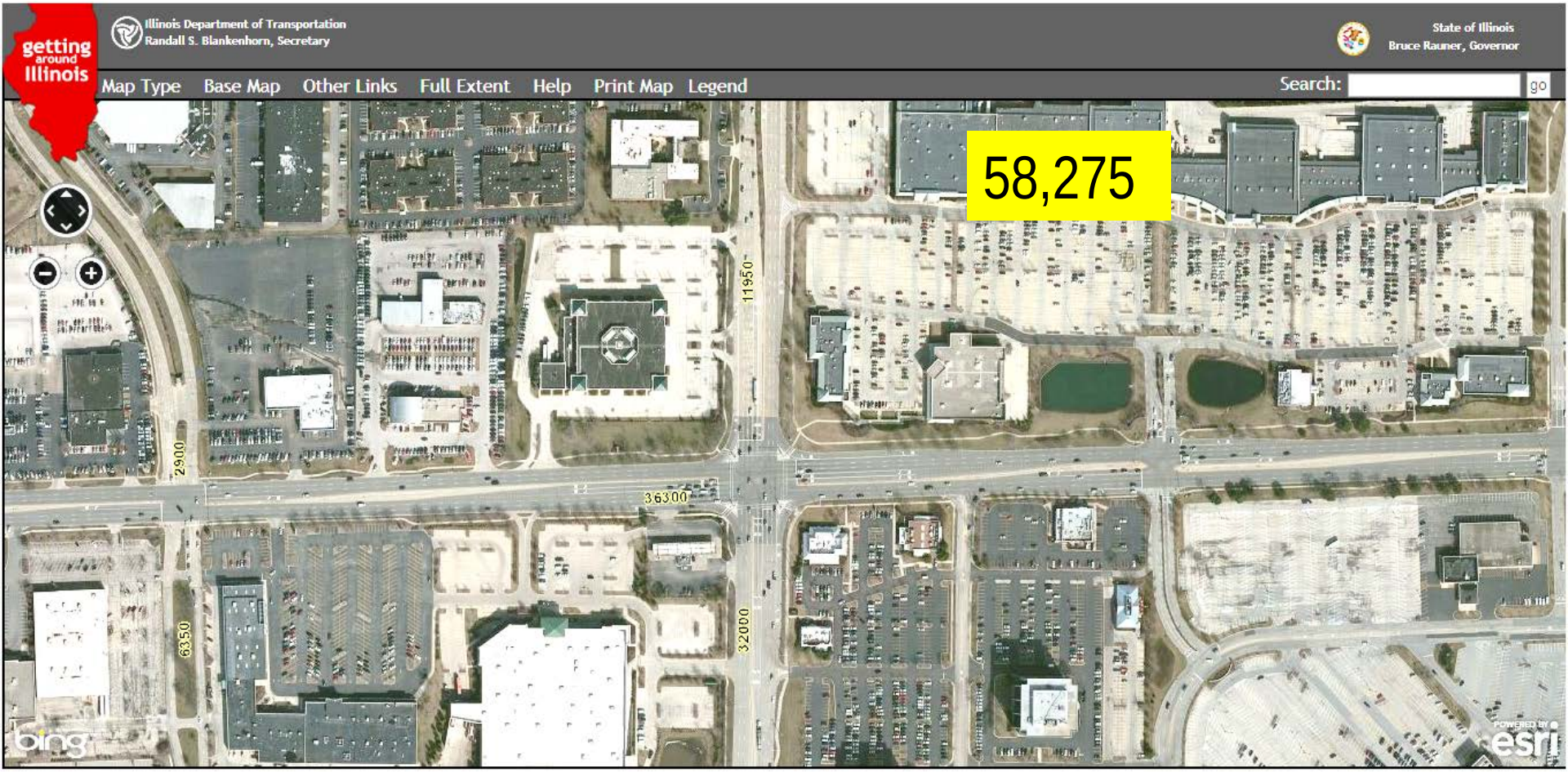
# Comparable Intersections – Meacham at Golf



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# Comparable Intersections – Arlington Hts at Golf




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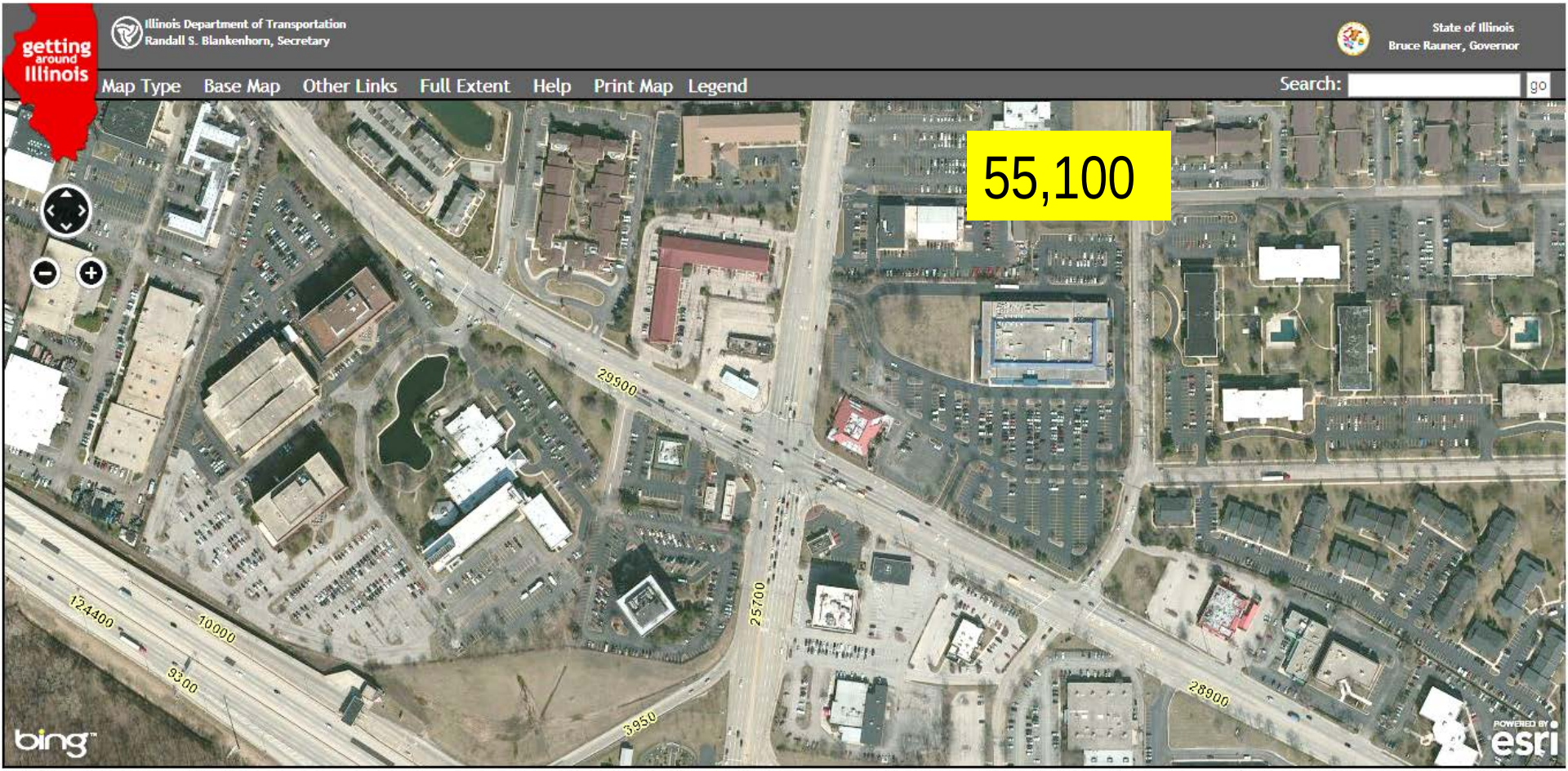
# Comparable Intersections – Arlington Hts at Algonquin



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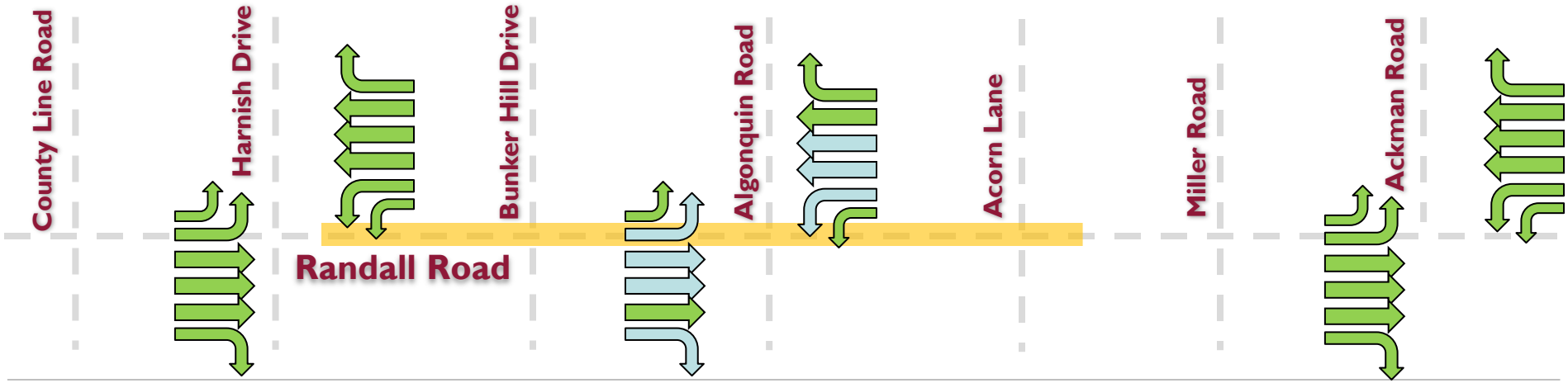
# Questions/Discussion

# What exists today along Randall?

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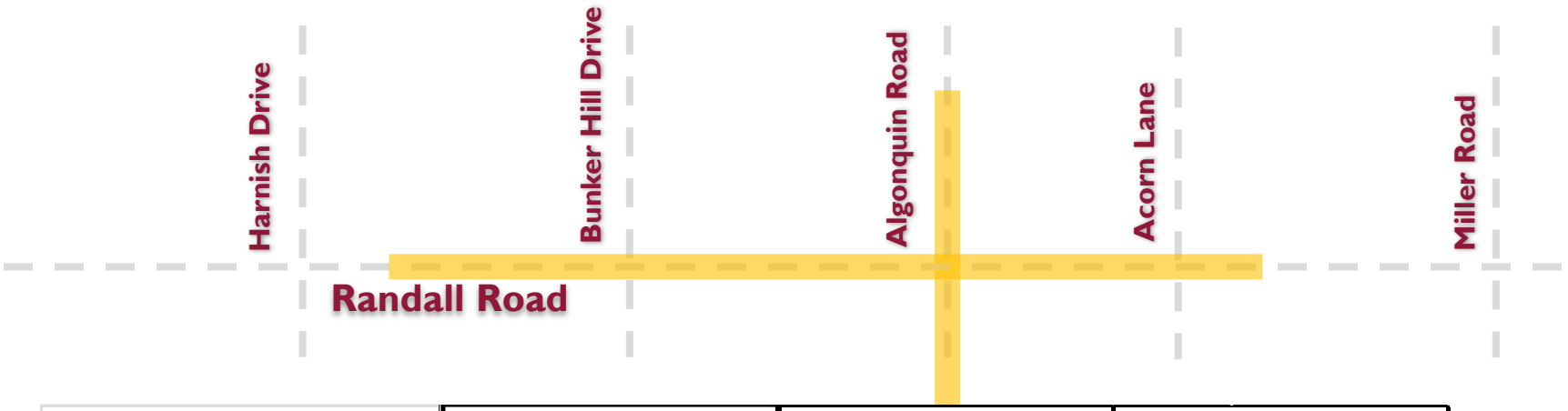
# Alternatives Analysis




| Segment 1 | Exist 2014 Traffic | | 2040 Traffic | | 50% 2040 Traffic | |
|---|---|---|---|---|---|---|
| | Delay (sec) | Travel Time (NB PM) (min) | Delay (sec) | Travel Time (NB PM) (min) | Delay (sec) | Travel Time (NB PM) (min) |
| **Existing** | 85 | 5.3 | 210 | 10+ | 130 | 9.1 |
| **Dual Lefts** | 73 | 4.9 | 153 | 10+ | 93 | 8.9 |
| **Dual Lefts with 3 Thru** | 64 | 3.7 | 92 | 6.1 | 82 | 5.6 |
| **Proposed Design** | 38 | 2.7 | 45 | 3.3 | 41 | 3.0 |

6 min savings



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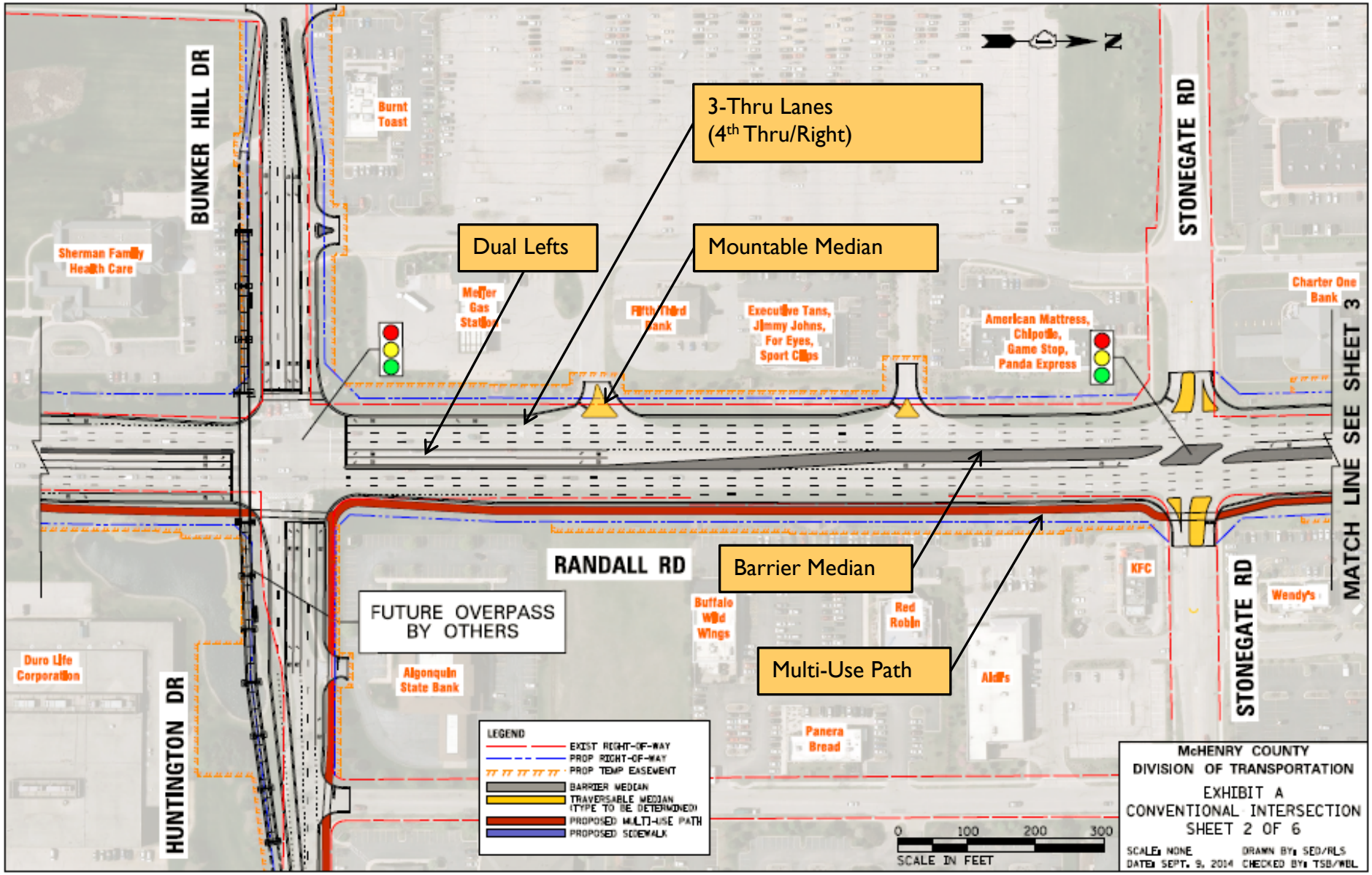
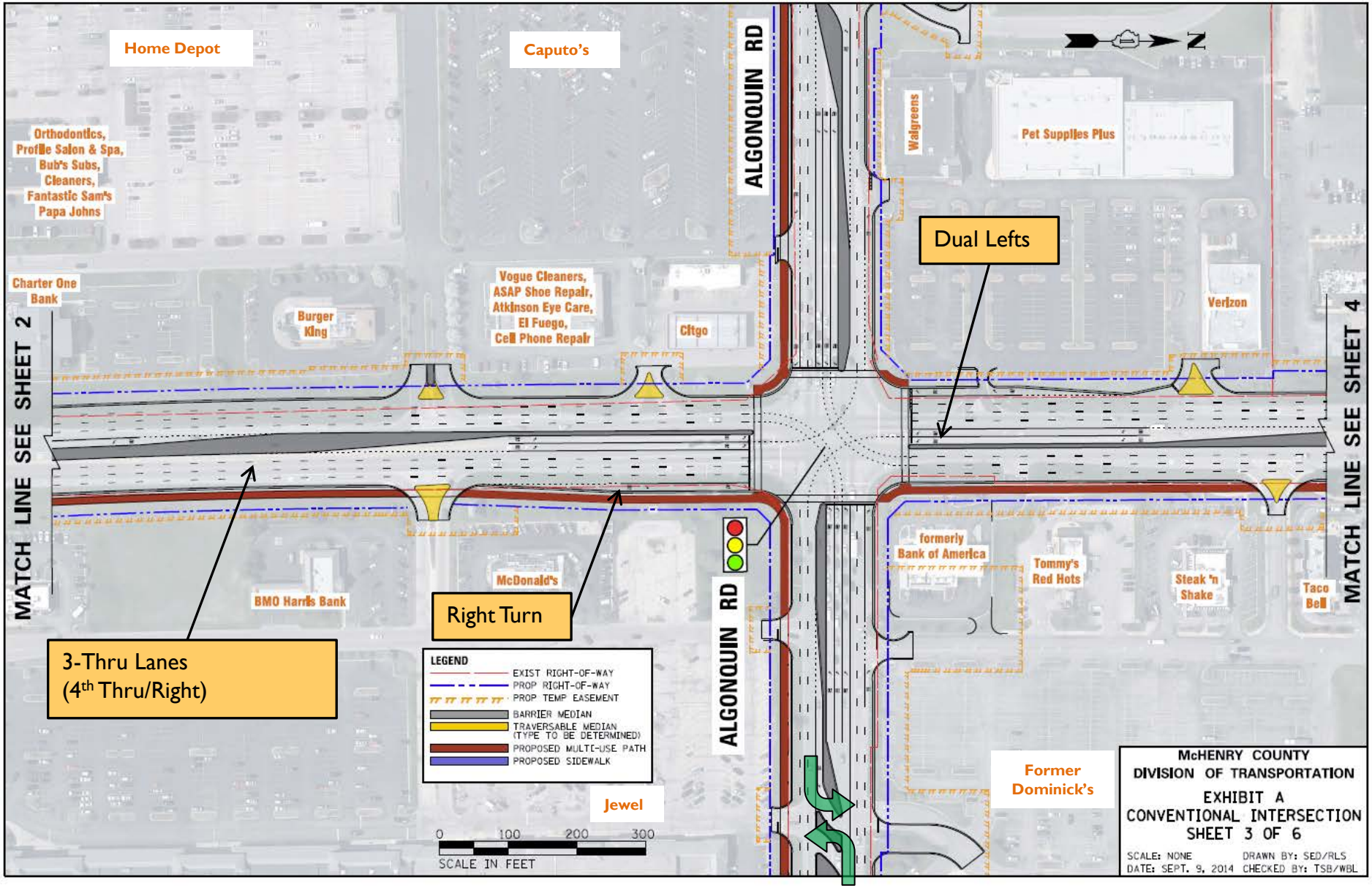
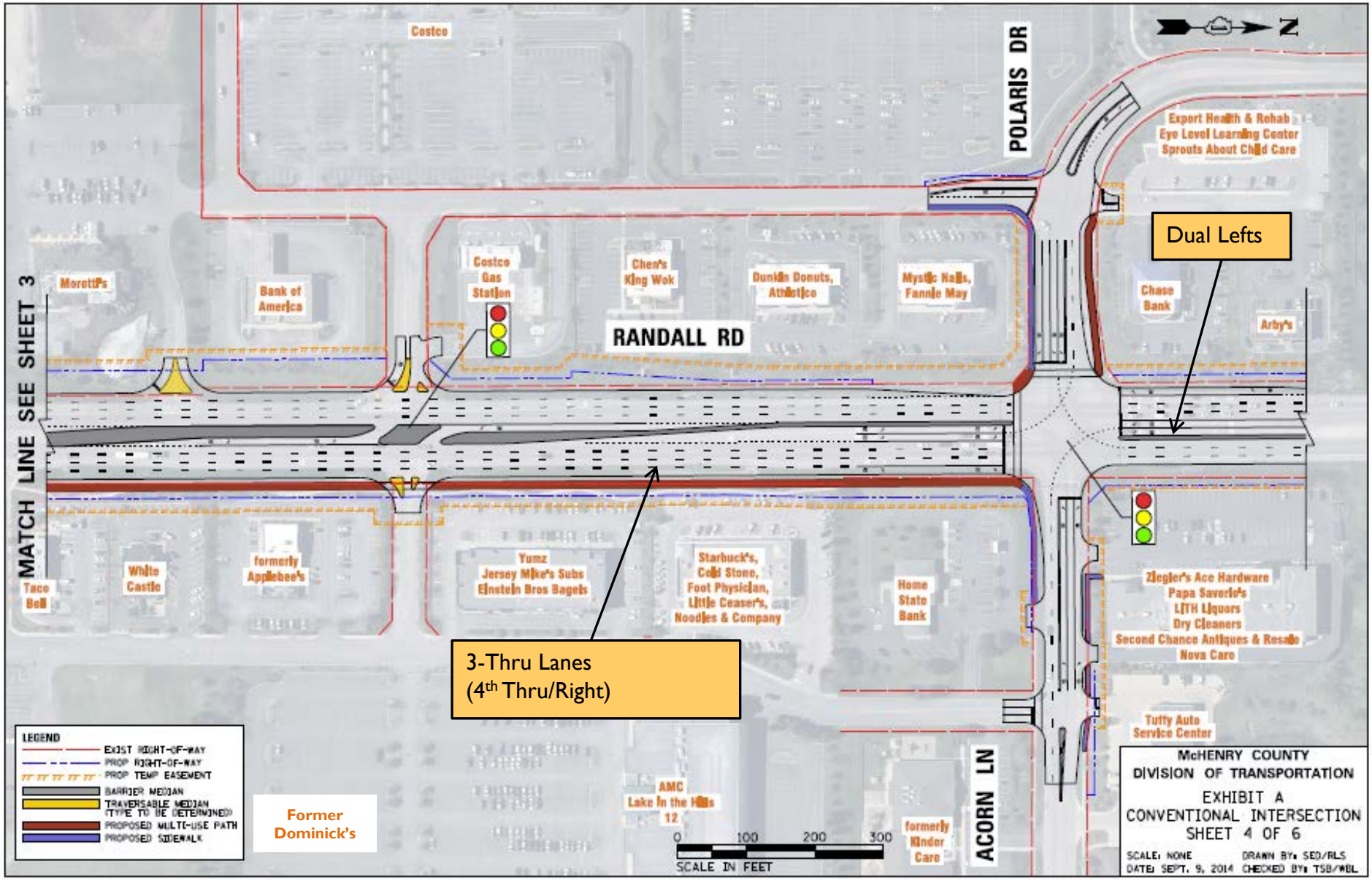
# Proposed Design – Randall Road



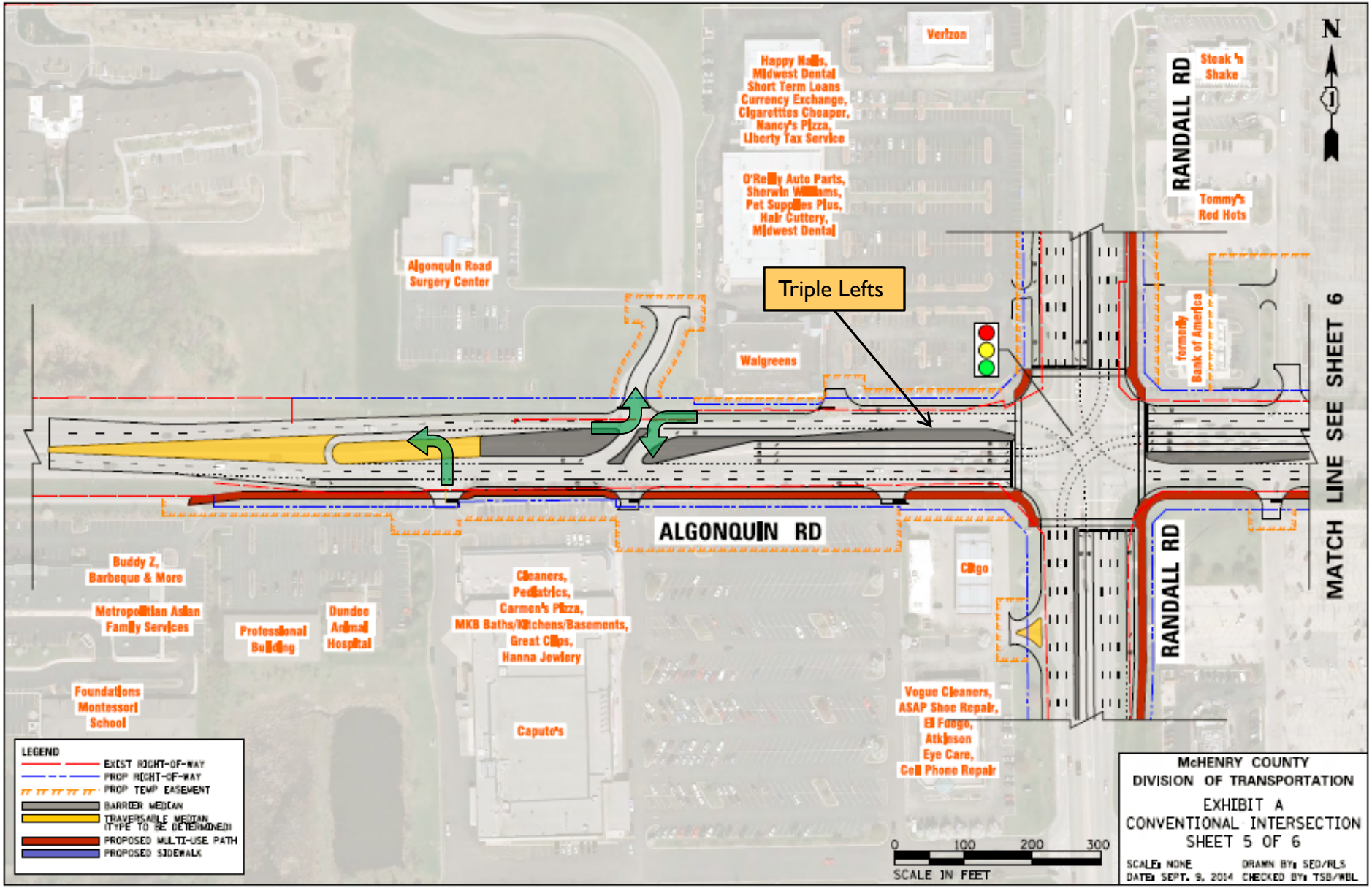
# Proposed Design – Randall Road



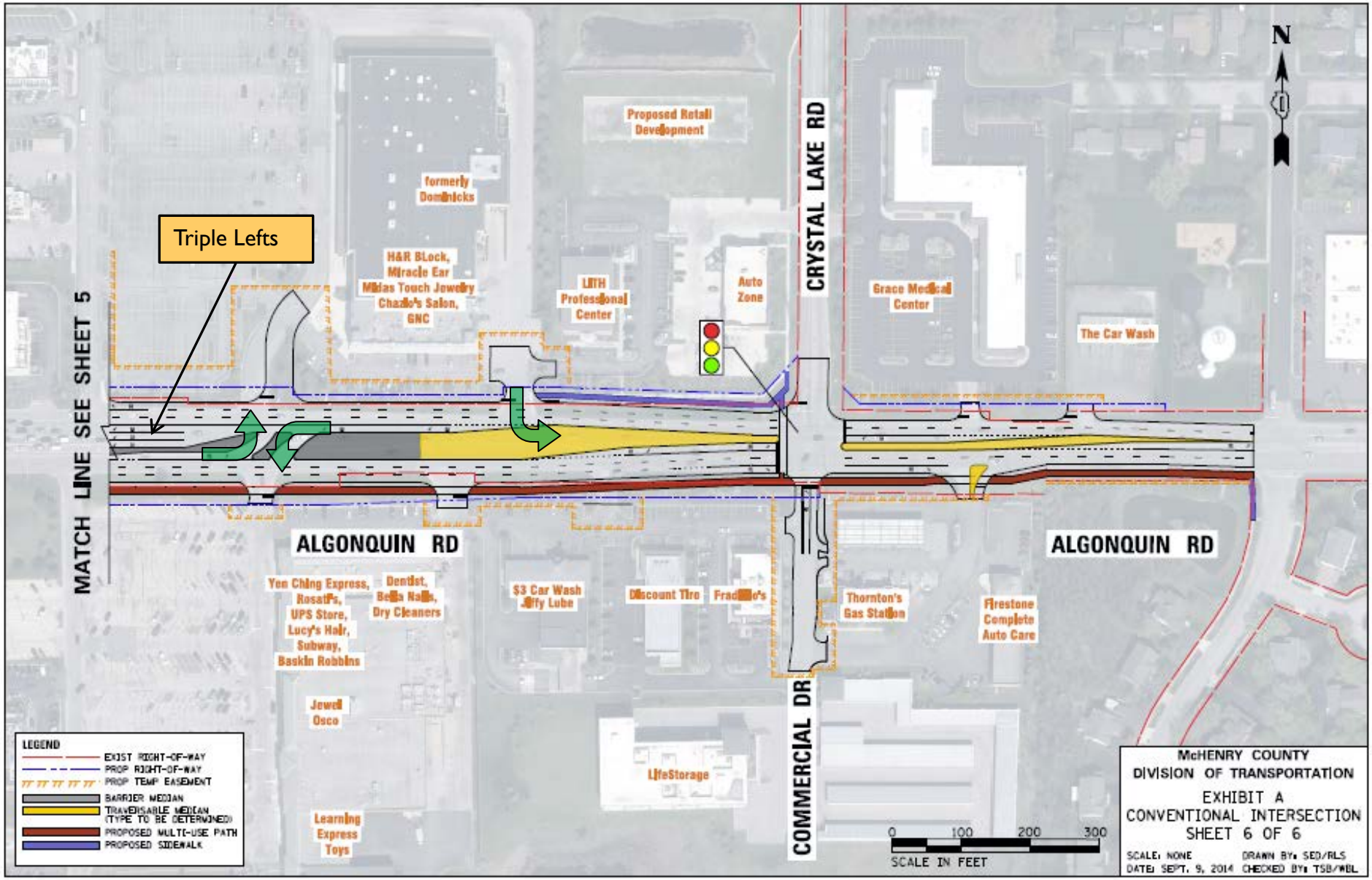
# Proposed Design – Randall Road



# Proposed Design – Algonquin Road

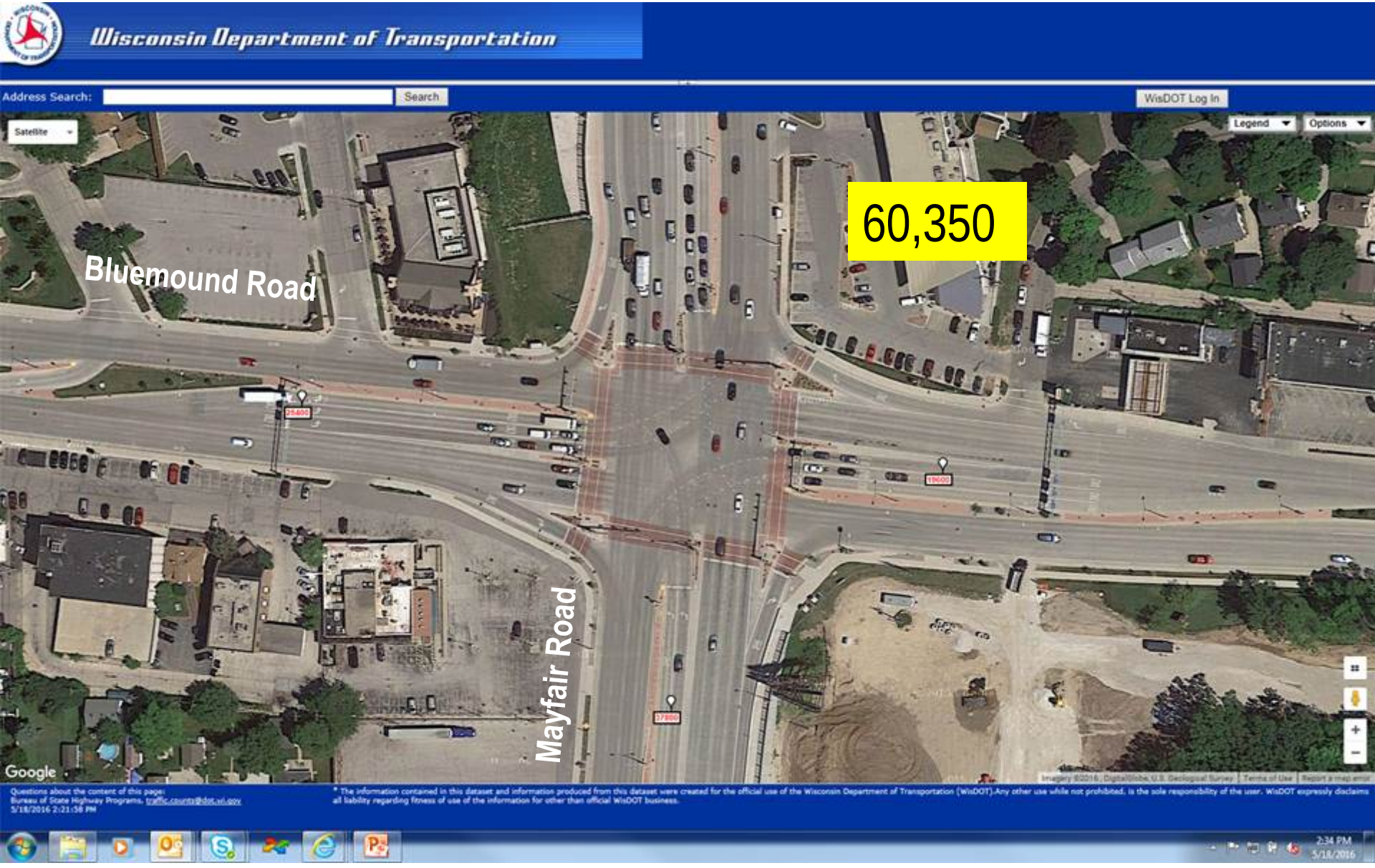


# Proposed Design – Algonquin Road

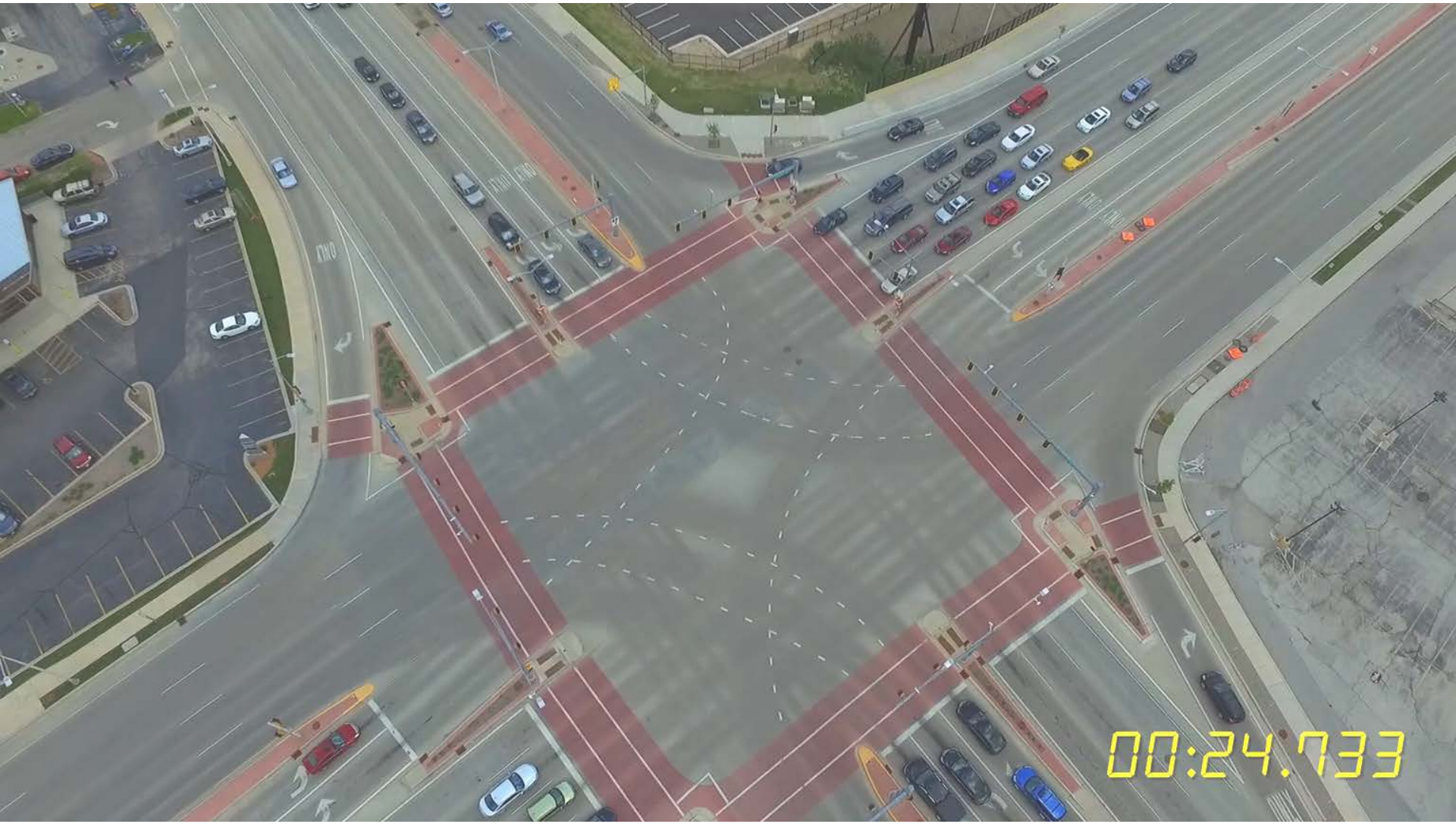


# Triple Left Example – City of Chicago

# Triple Left Example – Milwaukee, Wisconsin



# Triple Left Example – Milwaukee, Wisconsin



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# Questions/Discussion

# Randall Road Segment 1 Costs

| Randall Road<br>Harnish Drive to Acorn Lane | Rebuild in Kind | Dual Lefts | Dual Lefts with 3 Thru | Proposed Design |
|---|---|---|---|---|
| Construction Cost | $22.0M | $34.4M | $36.3M | $37.5M |
| Land Acquisition Management | $0 | $1.8M | $1.8M | $1.8M |
| ROW | $0 | $15.0M | $15.0M | $15.0M |
| Engineering (Includes Ph. 1) | $7.2M | $11.4M | $11.4M | $11.4M |
| **Total Cost** | **$29.2M** | **$62.6M** | **$64.5M** | **$65.7M** |
| Less CMAQ Funding | $0 | $0 | $0 | ($10.6M) |
| **Net County Cost** | **$29.2M** | **$62.6M** | **$64.5M** | **$55.1M** |

# Randall Road Corridor is an Economic Engine


## Current Conditions:

**+/- 150**
**Businesses**

**1.60 M**
**Total SF of Commercial Space (Bunker Hill to Acorn)**

**1.20 M**
**Occupied SF that Generates Sales Tax**

**~$9.5 M**
**in Estimated Sales Tax Collections for Algonquin & LITH**

**~$2.7 M**
**in Estimated Sales Tax Collections for McHenry County**



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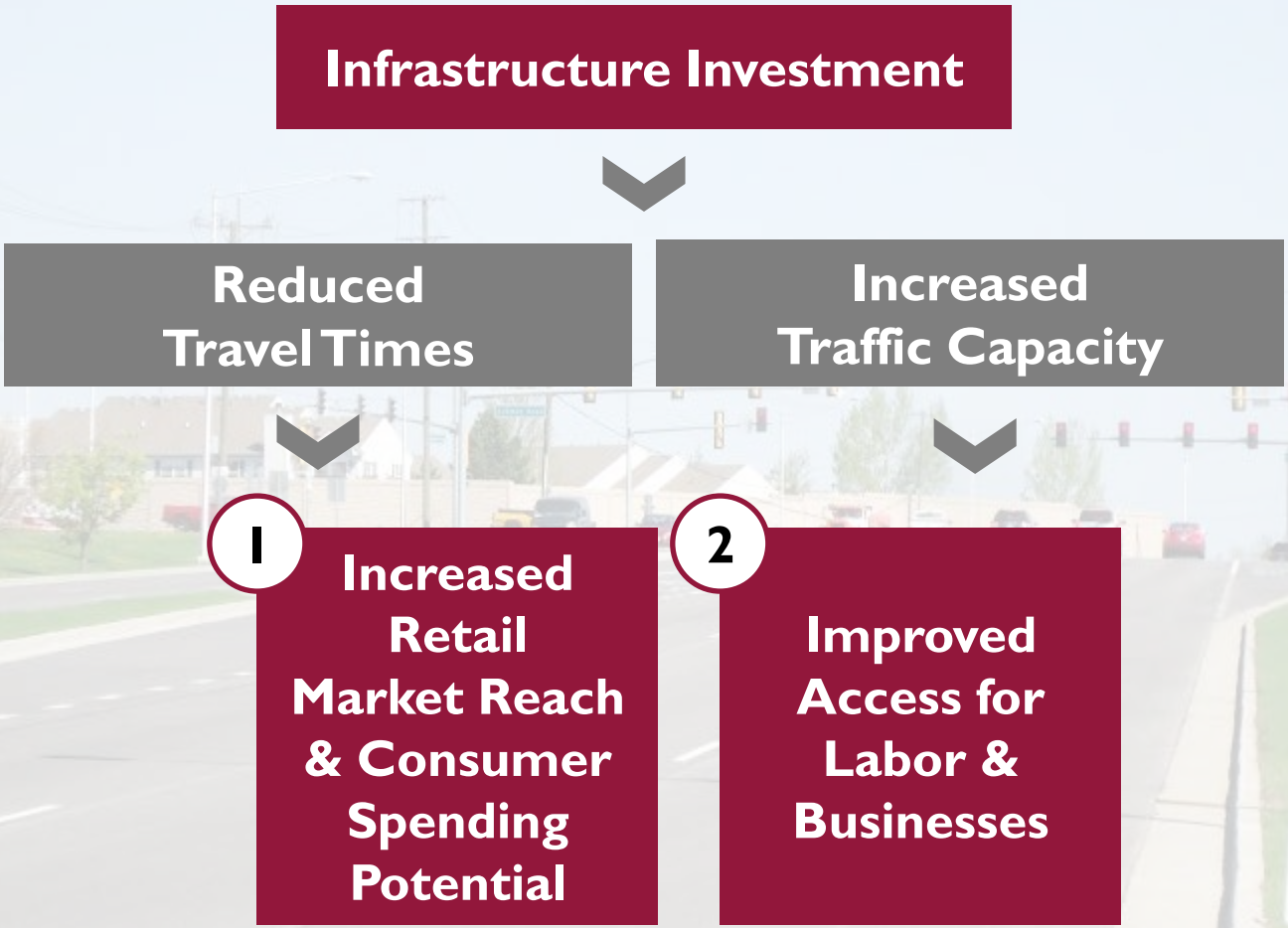
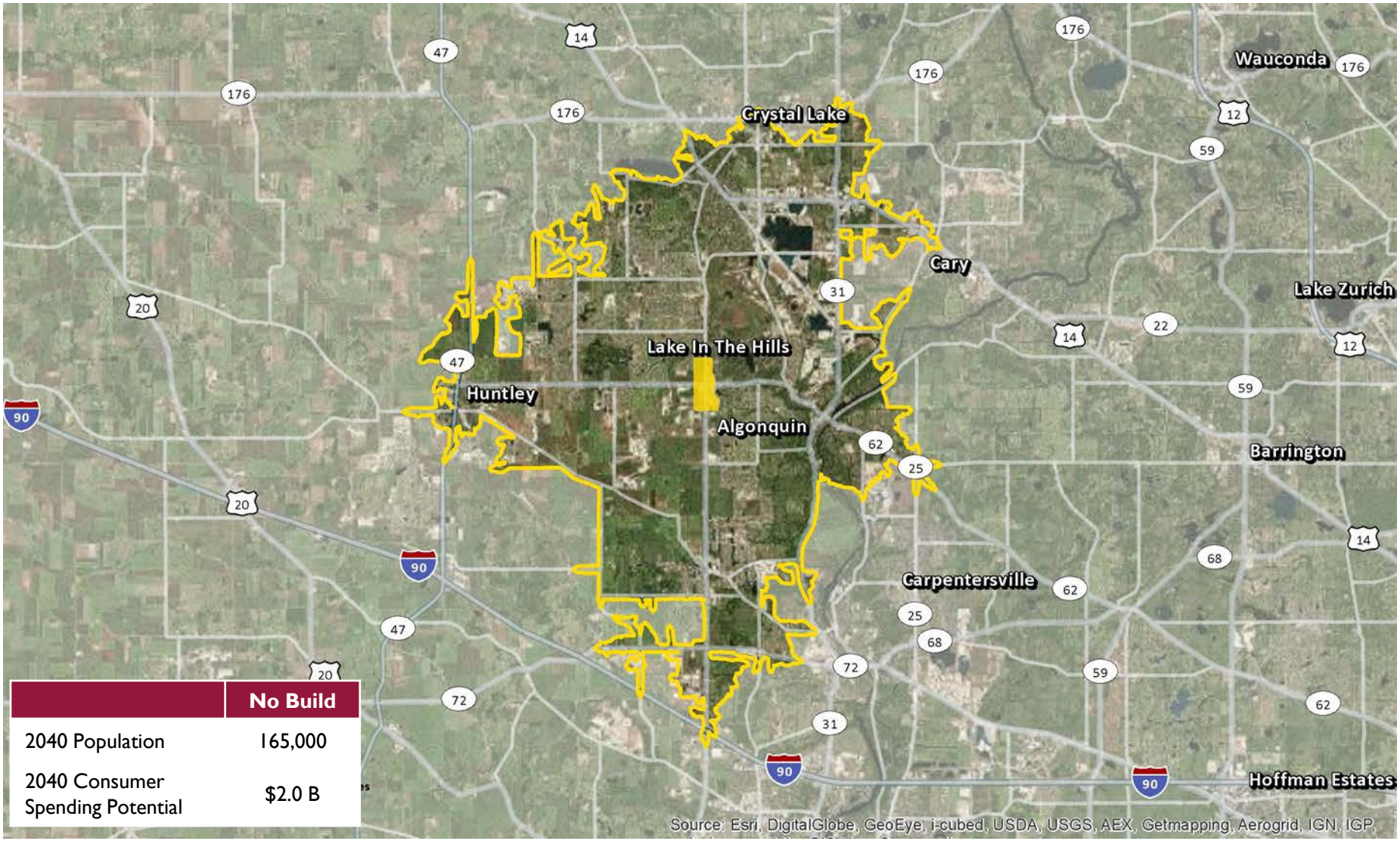
# Fiscal & Economic Impacts



# Increased Retail Market Reach & Spending Potential




| | No Build |
|---|---|
| 2040 Population | 165,000 |
| 2040 Consumer Spending Potential | $2.0 B |



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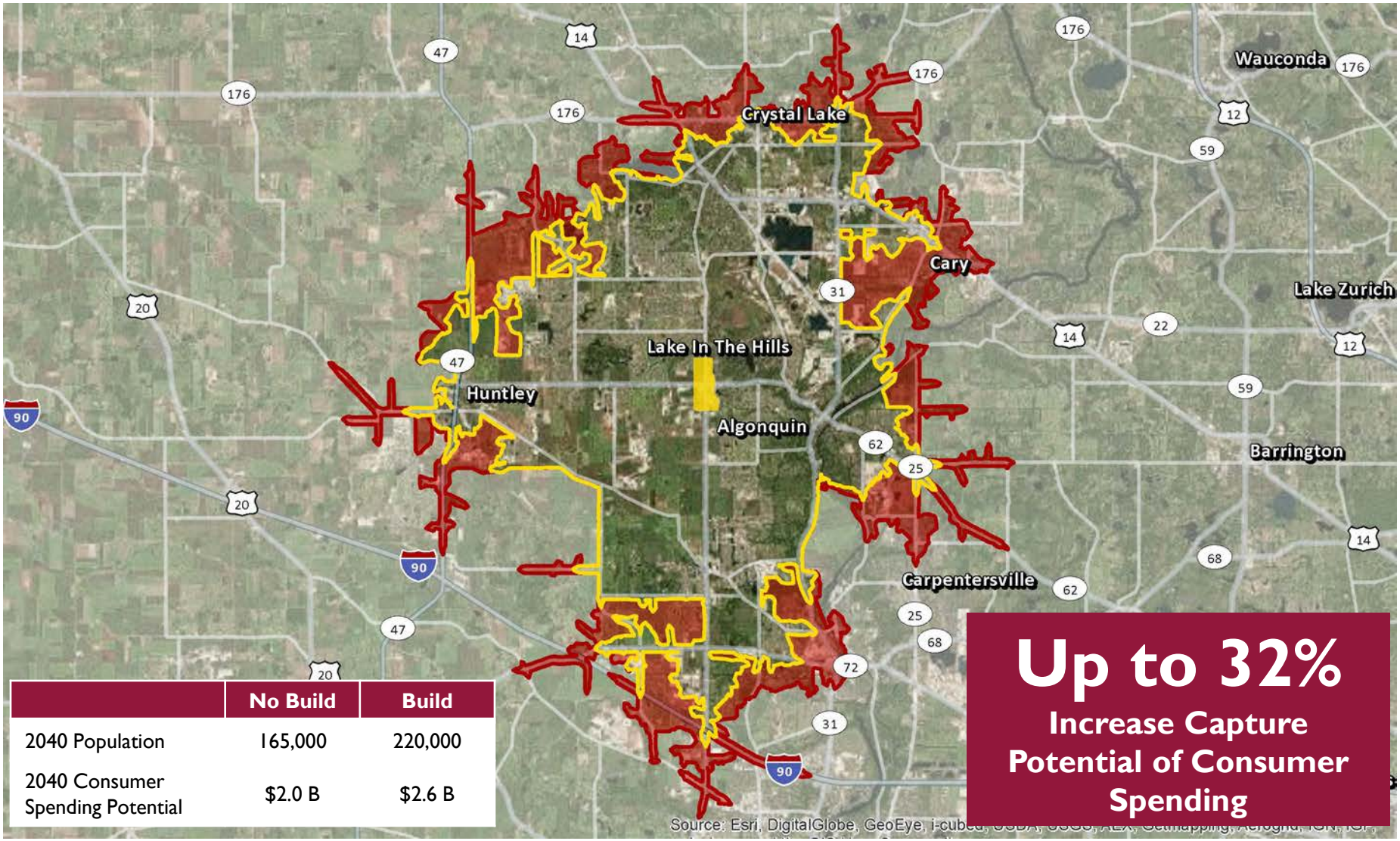
# Increased Retail Market Reach & Spending Potential




| | No Build | Build |
|---|---|---|
| 2040 Population | 165,000 | 220,000 |
| 2040 Consumer Spending Potential | $2.0 B | $2.6 B |

**Up to 32%**

**Increase Capture Potential of Consumer Spending**



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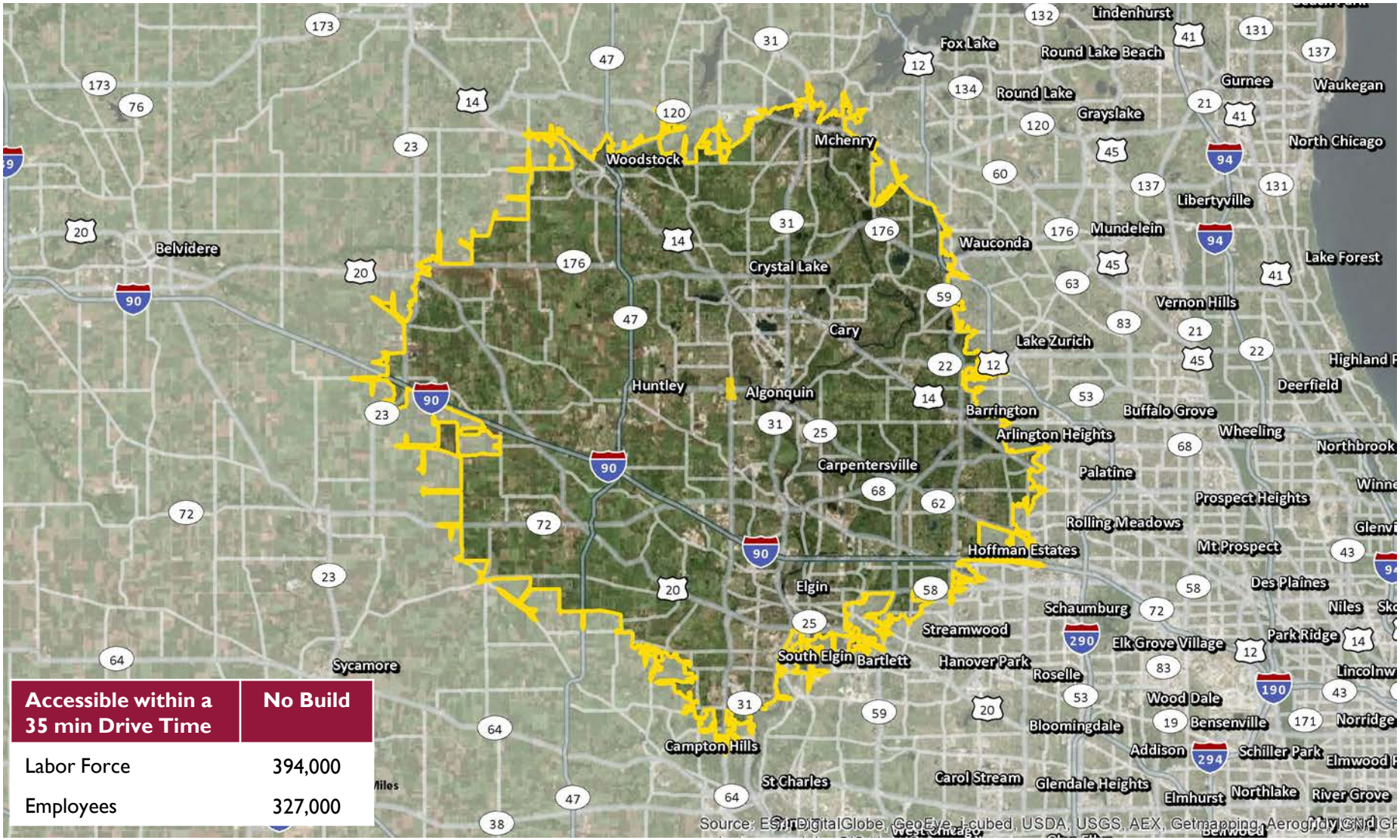
# 2 Improved Access for Labor & Business




| Accessible within a 35 min Drive Time | No Build |
|---|---|
| Labor Force | 394,000 |
| Employees | 327,000 |



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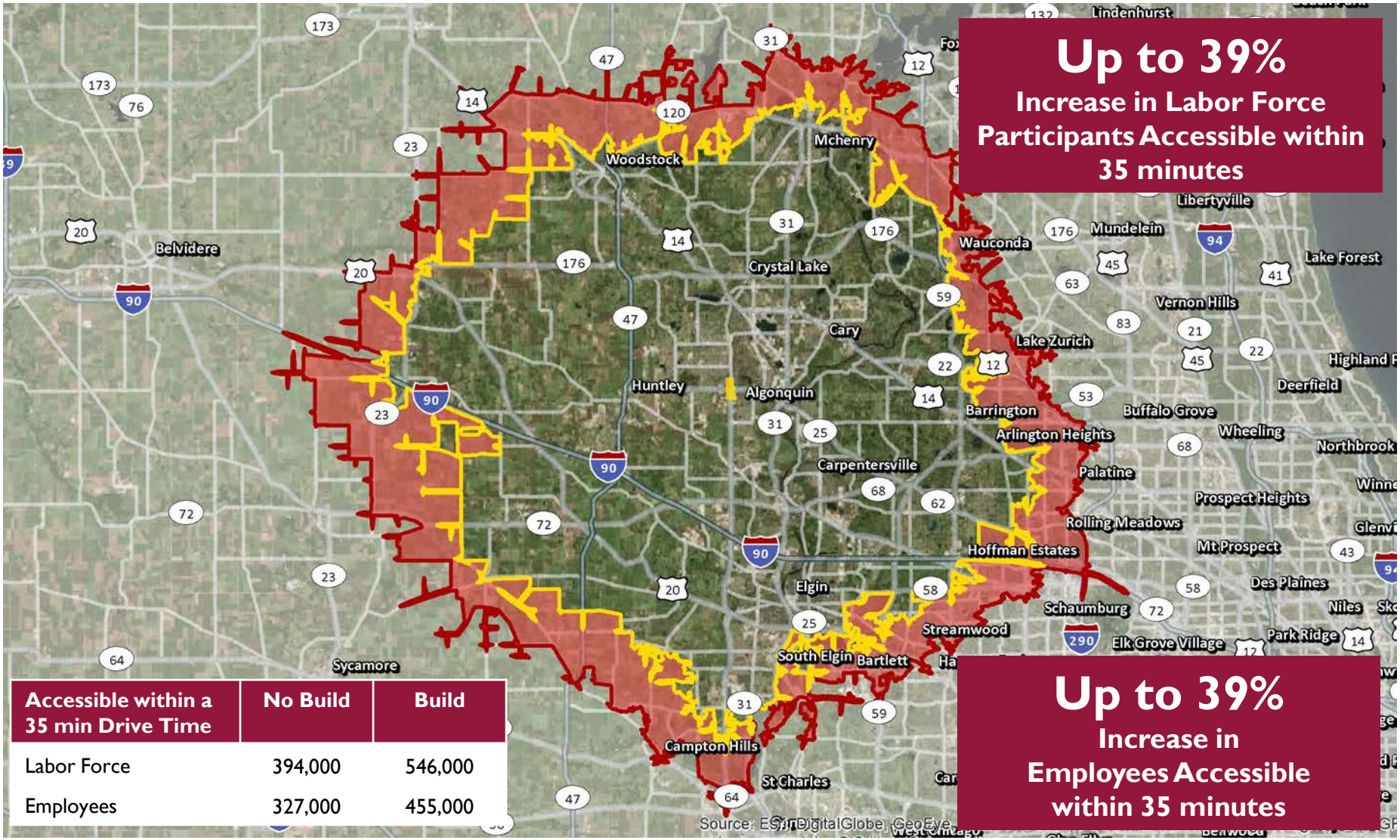
# 2 Improved Access for Labor & Business




| Accessible within a 35 min Drive Time | No Build | Build |
|---|---|---|
| Labor Force | 394,000 | 546,000 |
| Employees | 327,000 | 455,000 |



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# Quantitative Return on Investment

**Infrastructure Investment**

1. **Travel Time Savings**
2. **Increased Safety & Crash Reduction**
3. **Reduced Fuel Consumption**
4. **Reduced Emissions ($CO_2$)**

# Quantitative Return on Investment (Benefit Cost Ratio)

Present Value (2016 $s) of Project Benefits and Costs over 20-year life cycle (2020-2040)

| | Dual Lefts | Dual Lefts with 3 Thru | Proposed Design |
|---|---|---|---|
| Value of Travel Time Savings | $7,662,083 | $12,434,781 | $104,107,159 |
| + Value of Reduced Crashes | $5,229,805 | $12,736,416 | $19,673,561 |
| + Value of Reduced Fuel Consumption | $226,415 | $1,698,680 | $3,076,366 |
| + Value of Reduced $CO_2$ | $54,064 | $424,581 | $774,363 |
| = Total PV of Benefits (Net of Rebuild) | $13,172,366 | $27,294,458 | $127,631,450 |
| Project Costs | $62,600,000 | $64,500,000 | $65,700,000 |
| - Cost to Rebuild Randall in Kind [1] | $(37,300,000) | $(37,300,000) | $(29,200,000) |
| ÷ Total Life Cycle Cost (Net of Rebuild) | $25,300,000 | $27,200,000 | $36,500,000 |
| = Benefit Cost Ratio (Benefits ÷ Costs) | 0.52 | 1.00 | 3.50 |

[1] Includes cost of Proposed Algonquin Design at $8.1 M

Note: A benefit-cost ratio of 1 indicates benefits = cost, a ratio >1 indicates benefits exceed costs and a ratio <1 indicates benefits are lower than cost

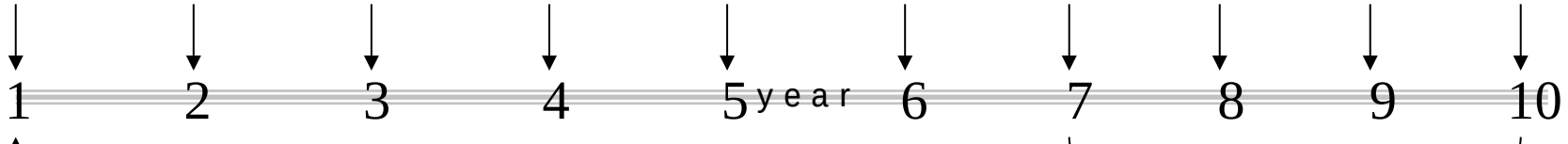
# County Uses Pay-As-You-Go and Pay-As-You-Use to Fund Transportation Projects

- The County has used a pay-as-you-go (annual capital expenditures) along with pay-as-you-use (debt issuance) to fund transportation capital projects
  - $50,000,000 Debt Certificate issued in 2007 to fund several major projects, now nearing final payment ($5.94 million) on the 9.5 year retirement period on December 30, 2016 (FY17). This is the only debt issuance used in the history of the County to fund road projects.
  - Other than the 2007 debt, the County has regularly used funding from either its fund balance accumulations, local, state and federal grants and/or funds from annual revenue sources to pay for capital projects undertaken by McDOT.
  - Approximately 75% of the County's capital project road expenditures in the past 10 years have been made with non-borrowing resources.

# Complementary Funding Approach Balancing "Pay As You Go" with "Pay As You Use"

- The County in 2006 adopted a strategic approach in managing capital expenditures for roads that can be replicated with regularity in the future if desired
  - The 2007 road program can be replicated at certain intervals in the future
  - The creation of a sustainable funding program will allow for better long-term planning and provide for better decision making

*County continues to engage "Pay As You Go" for a majority of road projects*




*County engages "Pay As You Use" for a portion of road projects*

*Debt is issued to accelerate funding of projects and retired over 10 year period.*

*Call provisions create efficient restructuring opportunities within fairly broad window of time so that next phase of debt issuance can occur in the future in favor of the County.*

# Pro-Forma Schedule of Debt Service – Various Amounts / Terms / Rates

| Repayment Term | Borrowing Amount | Annual Debt Service | Total Debt Service | Interest Rate Used * |
|---|---|---|---|---|
| 7 years | $20 million | $3.06 million | $21.4 million | 1.68% |
| 7 years | $25 million | $3.81 million | $26.7 million | 1.68% |
| 7 years | $30 million | $4.58 million | $32.1 million | 1.68% |
| | | | | |
| 10 years | $20 million | $2.21 million | $22.1 million | 1.91% |
| 10 years | $25 million | $2.76 million | $27.6 million | 1.91% |
| 10 years | $30 million | $3.32 million | $33.2 million | 1.91% |
| | | | | |
| 12 years | $20 million | $1.89 million | $22.7 million | 2.00% |
| 12 years | $25 million | $2.36 million | $28.4 million | 2.00% |
| 12 years | $30 million | $2.84 million | $34.0 million | 2.00% |

* reflects market conditions on May 31, 2016 and subject to change

# Thank You