

# South Bend Station Alternatives

Feasibility Study Findings

April 19, 2018

**AECOM**

# AECOM Scope for City of South Bend

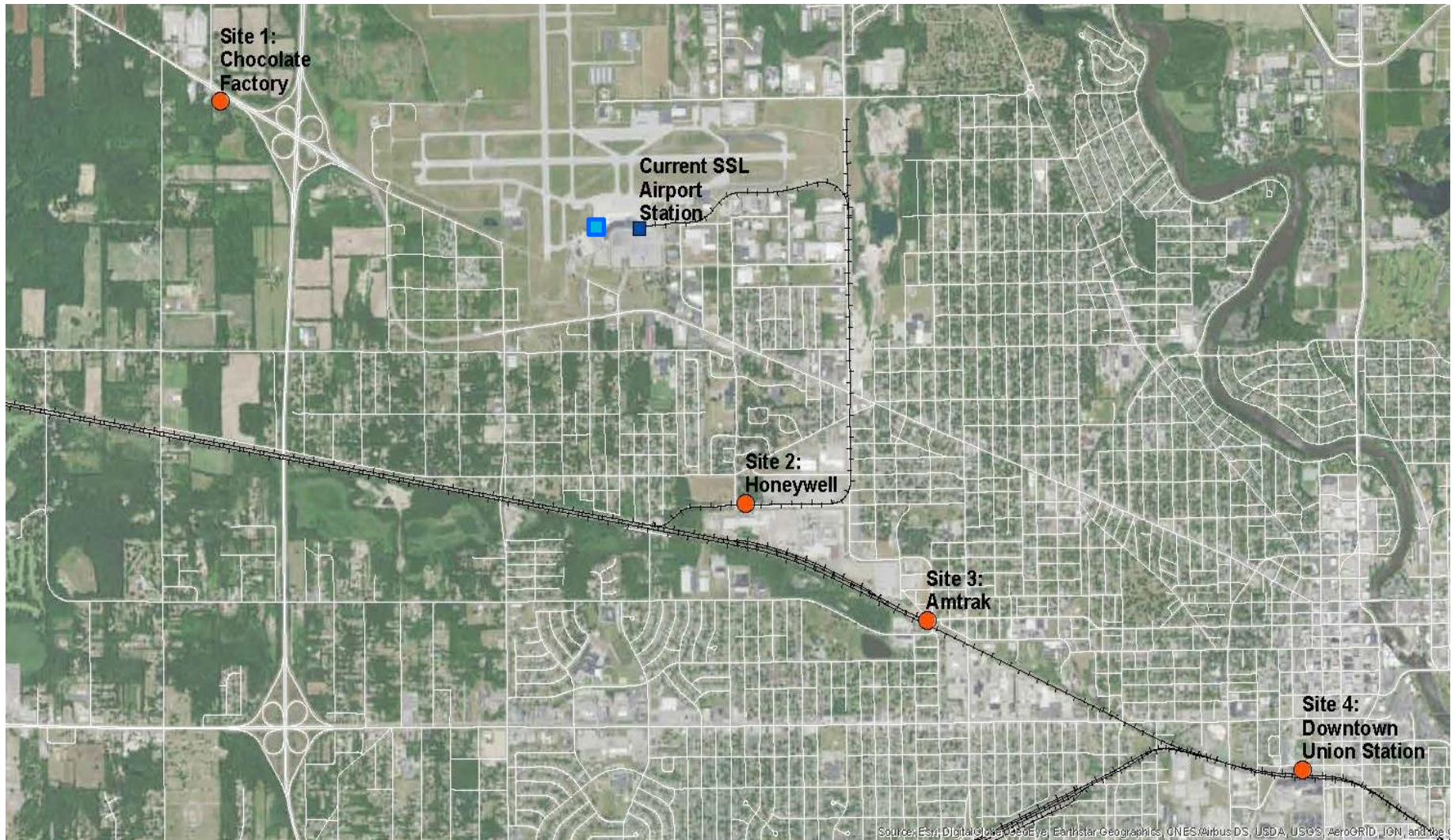
## Four Station Locations

1. Chocolate Factory (SWC US 20 & US 31)
2. Honeywell Site
3. Amtrak Station Site
4. Downtown South Bend – near Union Station

## Four Tasks

1. Technical / Physical feasibility analysis
  - a. Capital Costs
  - b. O&M Costs
2. Ridership / Schedule analysis
3. Economic Impacts analysis
  - a. TOD / Real Estate potential
  - b. Economic impacts
4. Final report / presentation materials

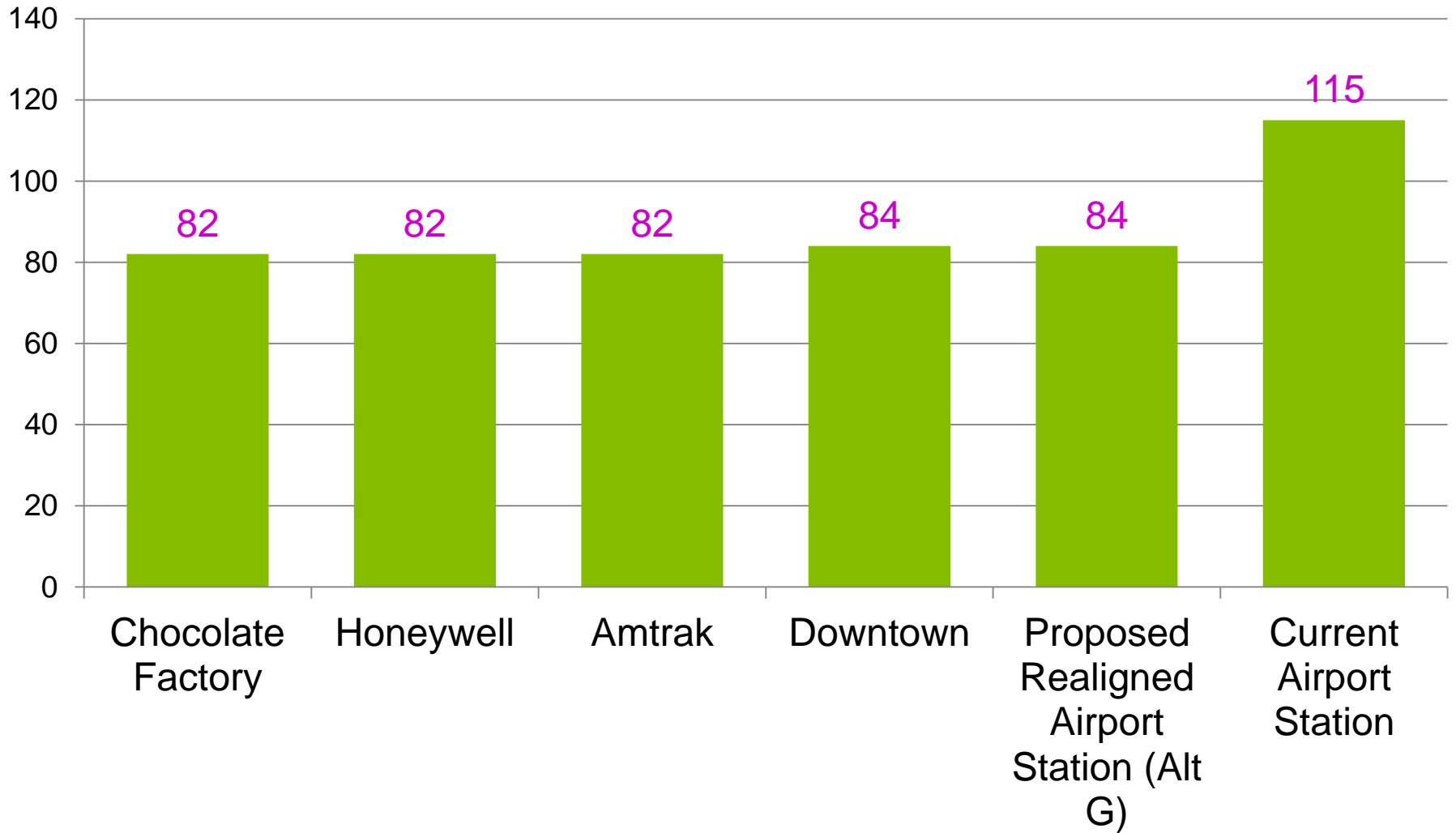
# Alternative Station Sites



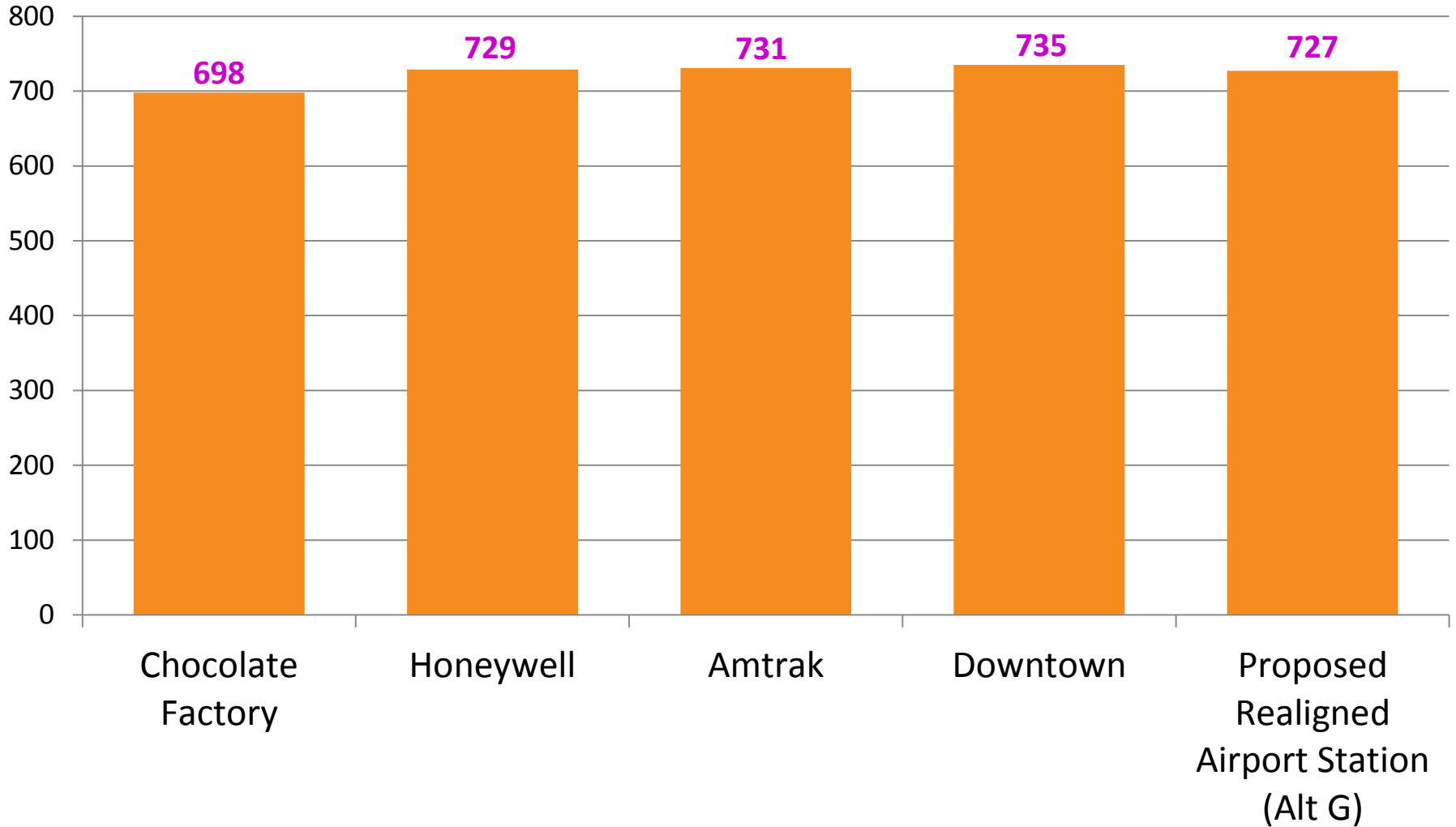
# Travel Times and Ridership

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# Comparative Travel Times, Fastest Train to Millennium Station



# 2040 Forecasted Daily Boardings by Station Location



# Capital and O&M Costs

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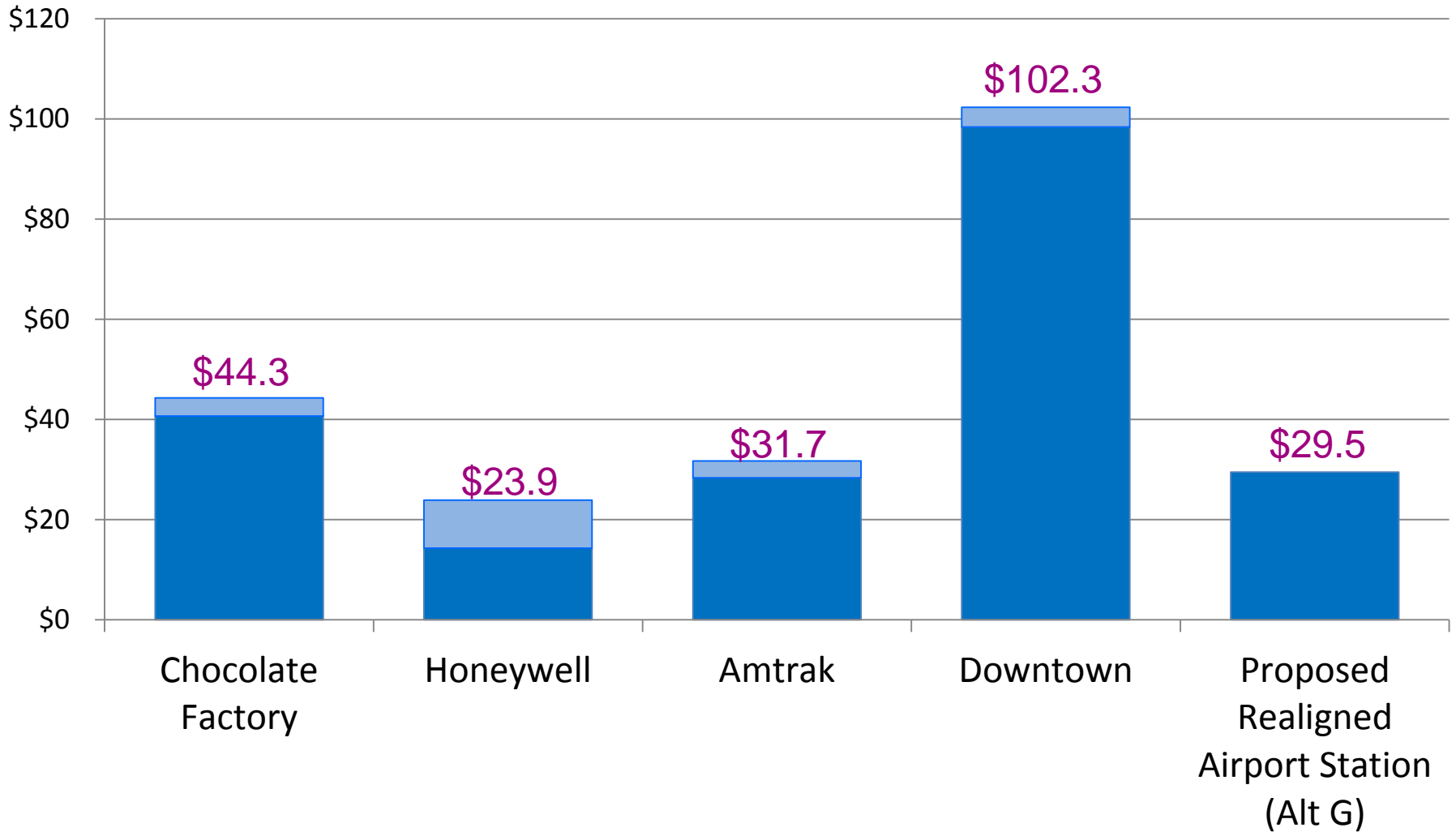


# Capital Costs by SCC Category (in thousands of 2017 \$)

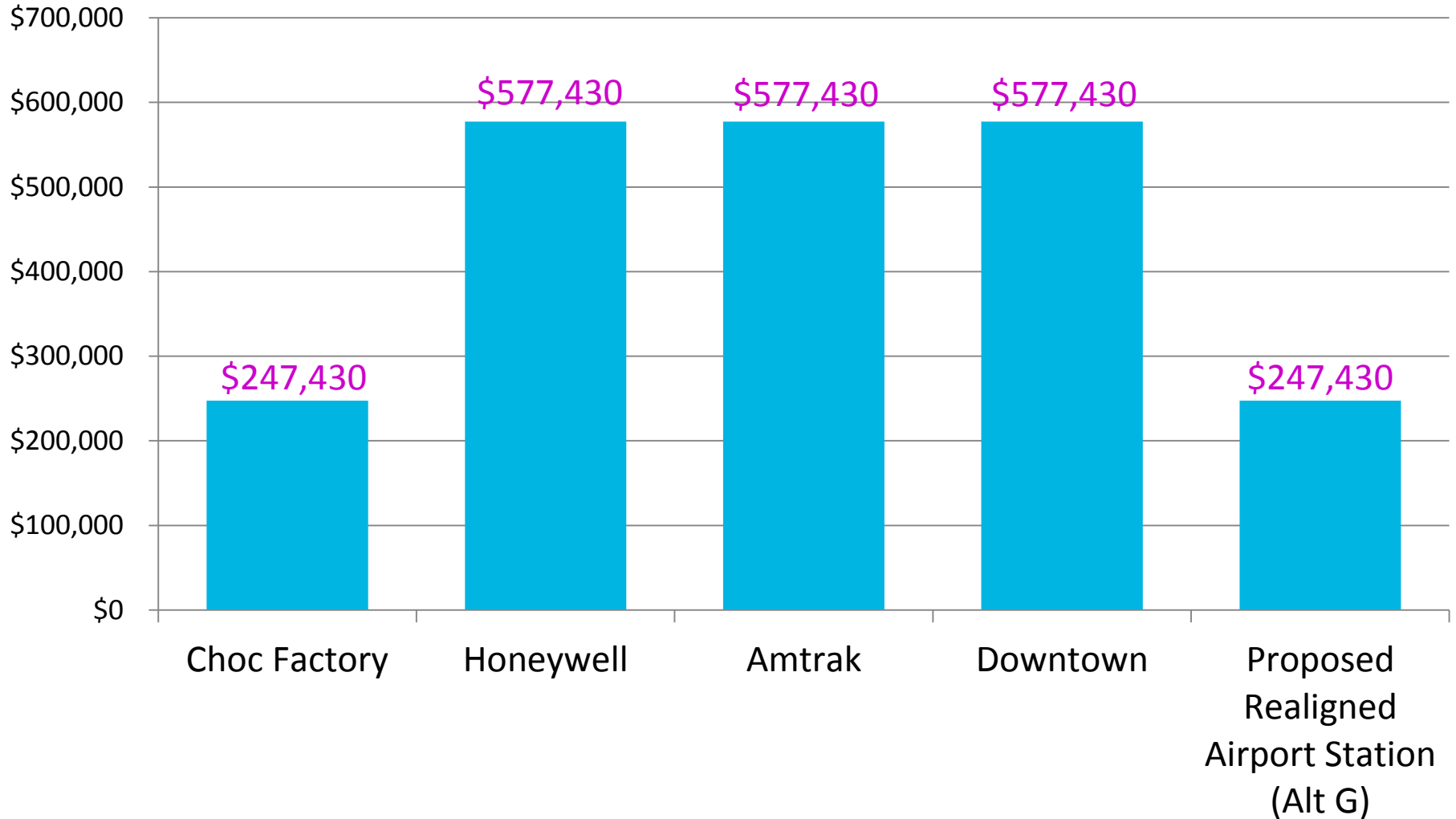
	FTA Cost Category	Chocolate Factory	Honeywell	Amtrak	Downtown	Proposed Realigned Airport Station (Alt G)
10	Guideway & Track Elements	\$7,537	\$3,434	\$3,552	\$27,579	\$4,424
20	Stations, Stops, Terminals	\$7,040	\$7,040	\$7,040	\$7,040	\$2,640
30	Support Facilities: Yards, Shops	\$776	\$0	\$3,559	\$3,785	\$0
40	Sitework & Special Conditions	\$5,324	\$3,056	\$4,115	\$10,213	\$3,854
50	Systems	\$7,636	\$4,358	\$5,759	\$11,928	\$7,949
	<b>CONSTRC SUBTOTAL (10-50)</b>	<b>\$28,312</b>	<b>\$17,888</b>	<b>\$24,024</b>	<b>\$60,544</b>	<b>\$18,866</b>
60	ROW, Land, Existing Improvements	\$91	\$200	\$225	\$5,400	\$3,000
80	Professional Srvs. (Cat. 10-50)	\$10,096	\$3,612	\$4,594	\$15,898	\$3,769
	<b>Subtotal</b>	<b>\$38,499</b>	<b>\$21,700</b>	<b>\$28,843</b>	<b>\$81,842</b>	<b>\$25,635</b>
90	Unallocated Contingency	\$5,775 15%	\$2,170 10%	\$2,884 10%	\$20,460 25%	\$3,845 15%
	<b>Total (in thousands of 2017 \$)</b>	<b>\$44,274</b>	<b>\$23,870</b>	<b>\$31,727</b>	<b>\$102,302</b>	<b>\$29,480</b>



# Capital Costs Summary (in millions of 2017 \$)



# Operations & Maintenance Costs (Annual, in 2017 \$)



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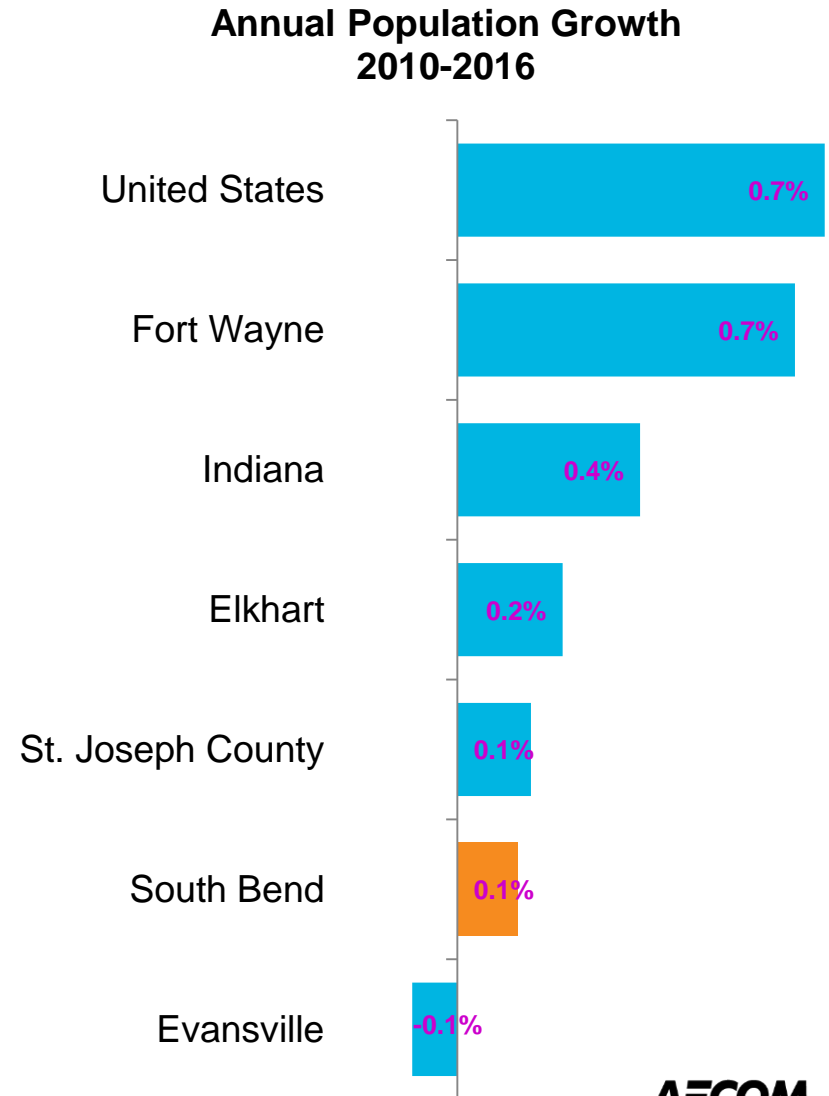
# **Economic Analysis: TOD and Impacts**

# Approach

1. Identify the amount of developable land, existing values and compatible land uses in each ½ mile station area
2. Determine the potential market demand per station based on a share of the city's capture rate, calibrated to each station's value premium/discount to market
3. Develop 10-year program for each station based on market trends, estimated market demand, developable land, and zoning/density constraints
4. Estimate future property tax revenues of new development using assessed values from each scenario
5. Estimate each alternative's total economic impact and other tax revenues using construction costs and station capital costs

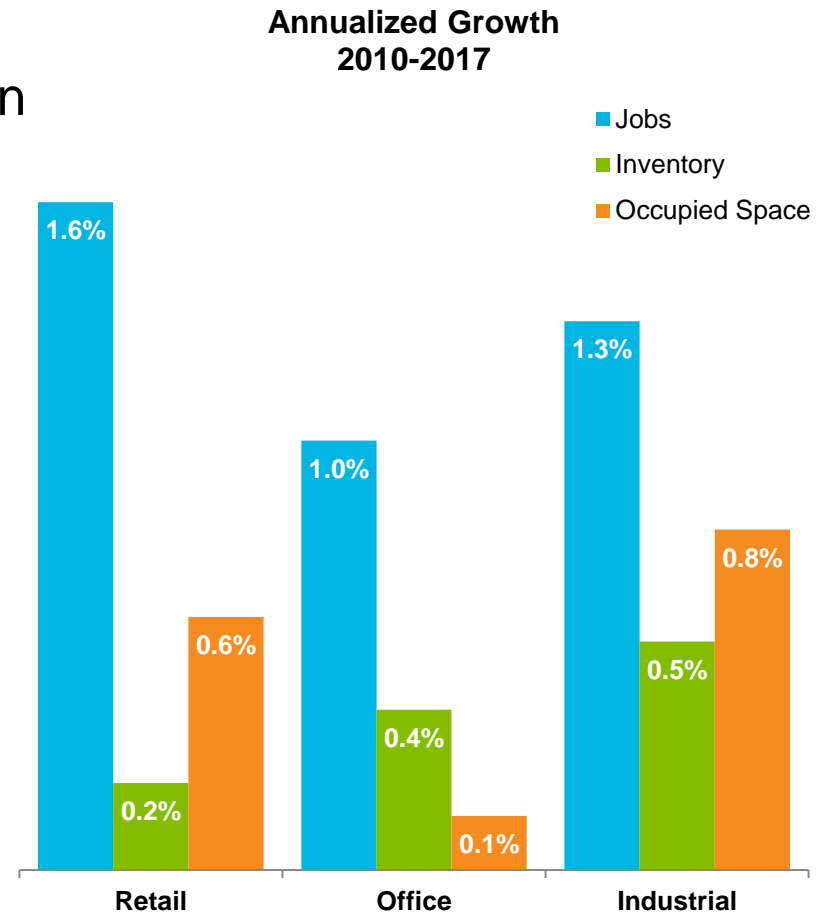
# Socioeconomic Base + Growth

- Approx. 100K people in the City of South Bend
  - Growth slower than peers
  - 700 people added since 2010
  - Notre Dame enrollment of 12.2K in 2015 with modest growth since 2011
- Metro area employment growth slower than US & state average
  - Growing just over 1% annually
  - Employment nearly recovered to pre-recession levels
  - Concentrations in Education, Mfg, Wholesale Trade (LQ>1.1)



# Employment + Real Estate Growth

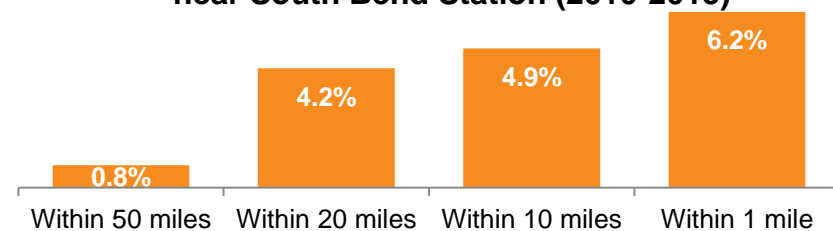
- Retail & Industrial market strength: faster growth in occupied space than inventory
- Office market weakness: growth in inventory faster than occupancy
- Jobs are growing faster than either inventory or occupied space



# Transportation Connections

- Existing South Bend Airport Station experiences unusually high weekend ridership, with a typical trip purpose of shopping/recreation
  - Notable Notre Dame game day ridership (4%)
- Combination of double-track & new terminal station location reduces travel time to Chicago to become competitive with Metra-served communities, enhancing market position
- ~400 (and growing) Chicago CBD workers living in station marketshed
  - Compare to Metra stations with ~90 min. travel time, such as Harvard, Ingleside, Kenosha, Fox Lake, which see 10-60% commuter rail capture rates of CBD workers

**Annual Growth in Chicago CBD Workers near South Bend Station (2010-2015)**





# 10 Year Program

- Residential includes single-family and multi-family land uses
- Industrial includes both production and flex facilities

Programmed Use in Developable Acres in Quarter Mile					
	Residential	Industrial	Retail	Office	Open/ Stormwater
Chocolate	0%	45%	30%	0%	25%
Honeywell Industrial	35%	25%	15%	0%	25%
Honeywell Mixed-Use	55%	5%	15%	0%	25%
Amtrak	45%	20%	10%	0%	25%
Downtown	45%	15%	10%	5%	25%
Current Airport Station	0%	75%	0%	0%	25%
Proposed Airport Station	0%	75%	0%	0%	25%
Programmed Use in Developable Acres in Half Mile					
	Residential	Industrial	Retail	Office	Open/ Stormwater
Chocolate	50%	15%	5%	0%	30%
Honeywell Industrial	40%	15%	5%	0%	40%
Honeywell Mixed-Use	57%	5%	8%	0%	30%
Amtrak	60%	5%	5%	0%	30%
Downtown	45%	12%	8%	5%	30%
Current Airport Station	0%	50%	20%	0%	30%
Proposed Airport Station	0%	50%	20%	0%	30%

# 10 Year Program and Deliveries

- Chocolate Factory
  - Mix of production & flex industrial
  - Retail based on Choc. Factory plan
  - Low-density single-family residential
- Honeywell Mixed-Use
  - Industrial flex reflective of likely employment
  - Shopping center retail format
  - Residential a mix of dense single-family, duplex, townhome, & low-rise apartments
- Amtrak
  - Smaller program due to less attractive values for developers; incentives likely necessary
  - Shopping center retail format
  - Residential a mix of dense single-family, duplex, townhome, & low-rise apartments
- Downtown
  - Larger program due to more attractive values related to CBD density & trends
  - Proportion of Downtown retail deliveries equivalent to ground-floor retail in the delivered 3- to 4-floor multifamily developments
  - Industrial flex facilities south of rail line
- Airport
  - Proposed Airport station has a smaller program due to less developable land (presence of RPZ & land dedicate to airport/terminal operations)
  - Industrial includes flex and manufacturing

Total Estimated Deliveries				
	Dwelling Units	Industrial SF	Retail SF	Office SF
Chocolate	50	398,000	85,000	0
Honeywell Industrial	220	184,000	68,000	0
Honeywell Mixed-Use	470	48,000	80,000	0
Amtrak	270	76,000	37,000	0
Downtown	670	217,000	109,000	52,000
Current Airport Station	0	394,000	66,000	0
Proposed Airport Station	0	271,000	56,000	0

# 10 Year Estimated Deliveries & Value

- Values reflect only the estimated value of new construction, not the uplift to adjacent property values
- Values are estimates based on averages and rounded

Total Estimated Deliveries				
	Dwelling Units	Industrial SF	Retail SF	Office SF
Chocolate	50	398,000	85,000	0
Honeywell Industrial	220	184,000	68,000	0
Honeywell Mixed-Use	470	48,000	80,000	0
Amtrak	270	76,000	37,000	0
Downtown	670	217,000	109,000	52,000
Current Airport Station	0	394,000	66,000	0
Proposed Airport Station	0	271,000	56,000	0

Total Estimated Value					
	Residential	Industrial	Retail	Office	Total Value
Chocolate	\$11,660,000	\$19,970,000	\$8,600,000	\$0	\$40,230,000
Honeywell Industrial	\$32,990,000	\$8,280,000	\$6,050,000	\$0	\$47,320,000
Honeywell Mixed-Use	\$63,650,000	\$2,260,000	\$7,160,000	\$0	\$73,070,000
Amtrak	\$19,700,000	\$1,820,000	\$1,730,000	\$0	\$23,250,000
Downtown	\$116,780,000	\$12,750,000	\$12,200,000	\$6,090,000	\$147,810,000
Current Airport Station	\$0	\$19,150,000	\$5,440,000	\$0	\$24,590,000
Proposed Airport Station	\$0	\$13,200,000	\$4,620,000	\$0	\$17,820,000

# Results Summary

## Estimated TOD Development and Economic Impact Summary (10 Year)

	New Construction (sq. ft.)	Assessed Value (2017 \$)	Development Construction Cost (2017 \$)	Station Capital Cost (2017 \$)	Economic Output (Year of Occurrence \$)	Tax Revenues (Year of Occurrence \$)
<b>Chocolate Factory</b>	580,000	\$40,230,000	\$31,300,000	\$44,274,000	\$144,400,000	\$15,400,000
<b>Honeywell Industrial</b>	600,000	\$47,320,000	\$42,460,000	\$23,870,000	\$132,000,000	\$14,110,000
<b>Honeywell Mixed-Use</b>	740,000	\$73,070,000	\$60,580,000	\$23,870,000	\$171,500,000	\$19,410,000
<b>Amtrak</b>	490,000	\$23,250,000	\$38,400,000	\$31,727,000	\$139,700,000	\$11,440,000
<b>Downtown</b>	1,280,000	\$147,810,000	\$107,440,000	\$102,302,000	\$415,300,000	\$45,150,000
<b>Proposed Airport Station</b>	330,000	\$17,820,000	\$15,040,000	\$29,480,000	\$83,800,000	\$8,800,000
<b>Current Airport Station</b>	460,000	\$24,590,000	\$20,710,000	\$0	\$39,000,000	\$7,210,000

	% Station Capital Cost Recovered in Est. Tax Revenue	Economic Impact as % of Station Capital Cost
<b>Chocolate Factory</b>	33%	310%
<b>Honeywell Industrial</b>	56%	526%
<b>Honeywell Mixed-Use</b>	77%	684%
<b>Amtrak</b>	34%	419%
<b>Downtown</b>	42%	386%
<b>Proposed Airport Station</b>	28%	271%
<b>Current Airport Station</b>	N/A	N/A

# Results & Implications

- Alternatives with large residential programs (Downtown, Honeywell Mixed-Use) show greatest potential impact due to higher development values and densities entailed
- Highest estimated values in Downtown, along with highest costs
- Amtrak's modest home values are a challenge for new construction
- Limited land available near Existing & especially Proposed Airport Station due to airport/terminal operations and protection zones
- Airport land use compatibility proximity would tend to dictate non-residential/industrial uses in Chocolate Factory, Existing Airport Station, & Proposed Airport Station locations
- Airport Authority interest in cargo-oriented development could support growth during this 10-year horizon.

# Conclusions and Comparisons

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# Comparison of Alternatives

Criteria	Site 1: Chocolate Factory	Site 2 : Honeywell	Site 3: Amtrak	Site 4: Downtown	Proposed Realigned Airport Station (Alt G)	Current Airport Station (No-Build)
Station Area Typology	Special Destination	Neighborhood TOD or Industrial	Neighborhood TOD	Downtown	Industrial	Industrial
Influence of Transit on Development Program	Moderate – attraction development plans enhanced but not dependent	High – purposeful TOD redevelopment ( <i>mixed-use scenario</i> ) Moderate – purposeful TOD redevelopment but weaker link between transit and industrial development ( <i>industrial scenario</i> )	Moderate – purposeful TOD redevelopment but weak market conditions	Moderate – development momentum already positive absent rail; will enhance or accelerate program	Low – limited current correlation unlikely to alter much with current infrastructure	Low – limited current correlation unlikely to alter much with current infrastructure
Space Available for Station, Platform & Parking	Good	Good	Good	Adequate	Good	Good



# Comparison of Alternatives

Criteria	Site 1: Chocolate Factory	Site 2 : Honeywell	Site 3: Amtrak	Site 4: Downtown	Proposed Realigned Airport Station (Alt G)	Current Airport Station (No-Build)
Station Area Acres Available for Development within Half-Mile	221	86	64	83	34	63
Potential New Construction Value within Half-Mile	\$40,230,000	\$73,070,000 (mixed-use scenario) \$47,320,000 (industrial use scenario)	\$23,250,000	\$147,810,000	\$17,820,000	\$24,590,000
Potential Economic Impact (10 yr)	\$144,400,000	\$171,500,000 (mixed-use scenario) \$132,000,000 (industrial use scenario)	\$139,700,000	\$415,300,000	\$83,800,000	\$39,000,000
Potential Fiscal Impact (10 yr)	\$5,921,000 (property) \$15,400,000 (all taxes)	\$8,563,000 (property) \$19,410,000 (all taxes) (mixed-use scenario) \$5,640,000 (property) \$14,110,000 (all taxes) (industrial scenario)	\$2,556,000 (property) \$11,440,000 (all taxes)	\$18,639,000 (property) \$45,150,000 (all taxes)	\$3,251,000 (property) \$8,800,000 (all taxes)	\$4,486,000 (property) \$7,210,000 (all taxes)

# Comparison of Alternatives

Criteria	Site 1: Chocolate Factory	Site 2 : Honeywell	Site 3: Amtrak	Site 4: Downtown	Proposed Realigned Airport Station (Alt G)	Current Airport Station (No-Build)
Base Capital Costs (\$ 2017)	\$44,274,000	\$23,870,000	\$31,727,000	\$102,302,000	\$29,480,000	N/A
Potential Range Capital Costs (\$ 2017)	\$40.7 mm - \$44.3 mm	\$14.3 mm - \$23.9 mm	\$28.3 mm - \$31.7 mm	\$98.4 mm - \$102.3 mm	\$29.5 mm	N/A
Summary of Construction Complexity	<p>Predicated on private owner's development plans</p> <p>Property acquisition for approach alignment</p> <p>CSS storage tracks</p>	<p>Properties owned by Honeywell Corporation</p> <p>Access near Honeywell operations</p>	<p>Impacts to CSS yard tracks</p> <p>Compatibility with CSS and NS operations</p>	<p>Limited ROW for rail and station between Walnut and downtown</p> <p>Compatibility with NS and CN operations</p>	<p>Property acquisition for approach alignment</p>	N/A
Travel Times	WB: 82-98 min. EB: 90-97 min.	WB: 82-98 min. EB: 90-97 min.	WB: 82-98 min. EB: 90-97 min.	WB: 84-100 min. EB: 92-99 min.	WB: 84-100 min. EB: 92-99 min	WB: 115-160 min. EB: 118-155 min
Forecast Weekday Ridership (2040)	698	729	731	735	727	N/A
Likely Environmental Action Required	Environmental Impact Statement	Environmental Assessment or Categorical Exclusion	Environmental Assessment	Environmental Impact Statement	Environmental Assessment	N/A
O&M Costs (Annual)	\$247,430	\$577,430	\$577,430	\$577,430	\$247,430	N/A

# Discussion

April 19, 2018

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