



# Farmington Canal Heritage Trail Gap Closure and CT *fastrak* Study

CRCOG, Plainville, Southington and New Britain

Steering Committee/Technical Team Meeting  
November 15, 2016



CONCORDIS GROEP



# Purpose of Meeting

- Welcome and Introductions
- Alignment Alternatives
- Review Decision Matrix Categories
- Review Category Weightings
- Results of Decision Matrix Analysis
- Next steps



# Vision Statement

“The vision for the Farmington Canal Heritage Trail and CTfastrak Gap Closure study is to connect the communities with a world-class multi-use trail that closes the gap in the Farmington Canal Heritage Trail (FCHT) through the towns of Southington and Plainville with a connection to the CT**fastrak** station in downtown New Britain. These links will prioritize safety, comfort, and mobility for all users, regardless of age or ability, through cohesive and attractive trails that promote economic and community vitality.”

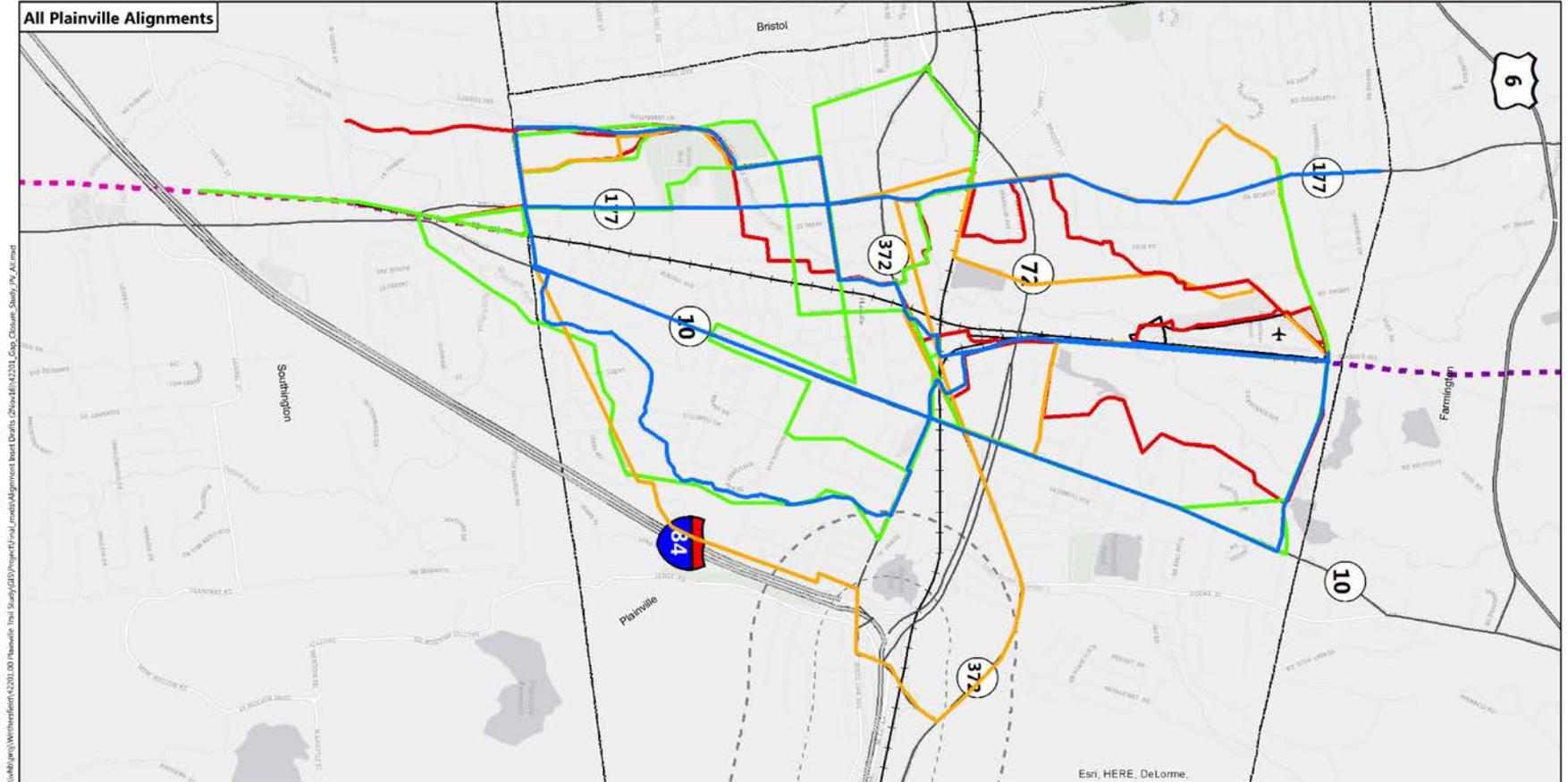
# Vision Statement

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# Plainville Alignment Summary



vhb November 09 | 2016



\\vbh\gms\Wetherfield\4201.00\Plainville Trail Study\GIS\Project\Local\_mxd\Alignments\Inset\Bristol\_Closure\_Study\_Tier\_Airroad



- Interstate
- U.S. Highway
- State Highway
- Rail with Trail; Railroad Active rail; Gap Being Studied
- Multi-use trail, Under construction
- Rail with Trail; Multi-use trail, In design
- Town Boundary
- Rt 72 Buffer
- Quarter Mile Radius
- Half Mile Radius

## Gap Closure Trail Study

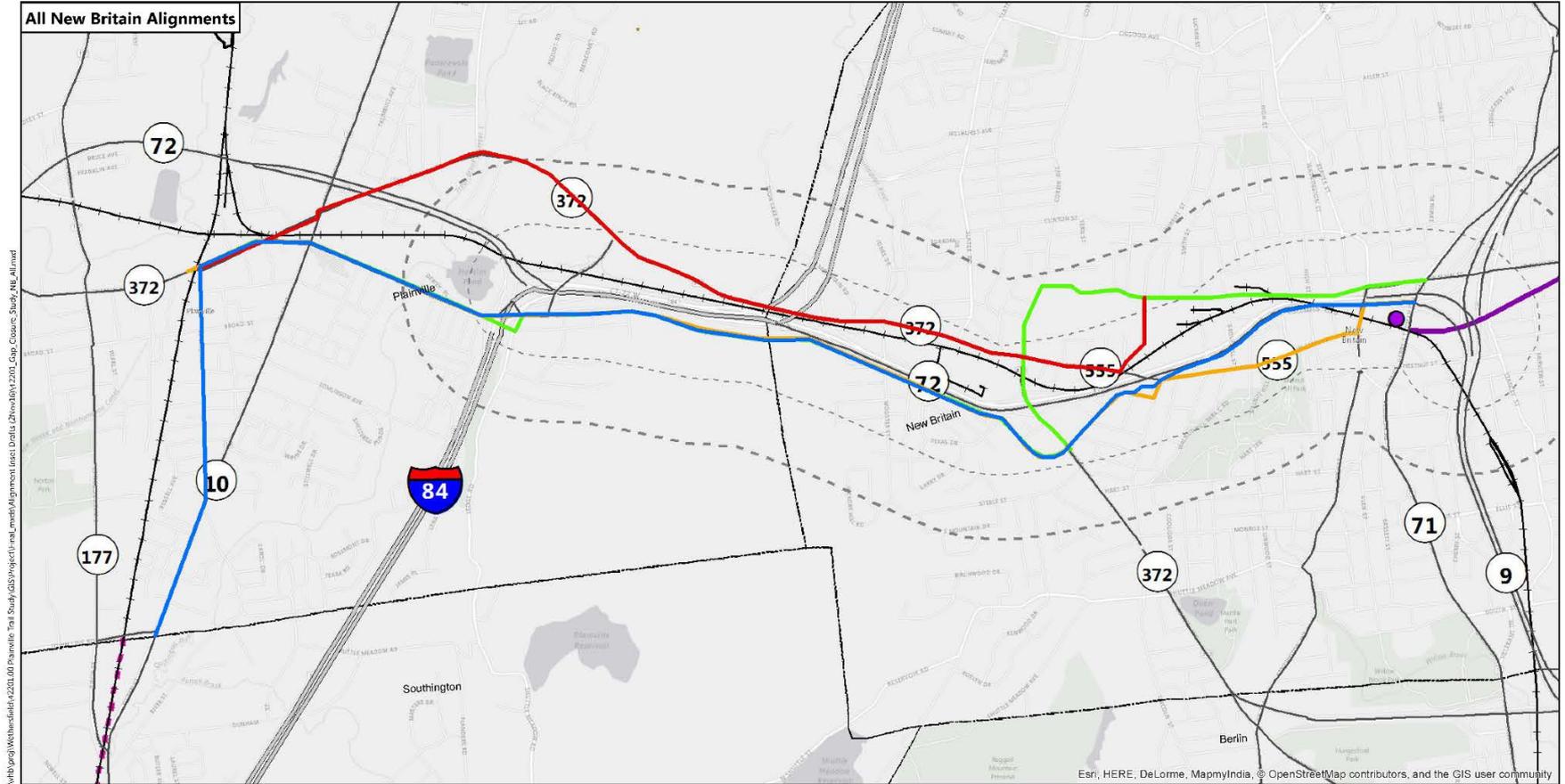
Hartford County, CT

- Alignment Scores**
- Blue Top Tier
  - Green Second Tier
  - Orange Third Tier
  - Red Lowest Tier

## Plainville Proposed Alignments

Source Information:  
Map and Geographic Information Center -  
University of Connecticut, US Census Bureau

# New Britain Alignment Summary



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- CTfastrak Stations
- Interstate
- U.S. Highway
- State Highway
- Rail with Trail, Railroad Active rail, Gap Being Studied
- Multi-use trail, Completed
- Multi-use trail, Under construction
- Rail with Trail, Multi-use trail, In design
- Town Boundary
- Robertson Airport
- Rt 72 Buffer
- Quarter Mile Radius
- Half Mile Radius

## Gap Closure Trail Study

Hartford County, CT

- Alignment Scores**
- Top Tier
  - Second Tier
  - Third Tier
  - Lowest Tier

## New Britain Proposed Alignments

Source Information:  
Map and Geographic Information Center - University of Connecticut, US Census Bureau

# Decision Matrix Categories

Map #	Alternative Alignment Name	Overall Score	Connectivity (20%)	Safety/Security (25%)	Facility Type (30%)	Environmental (10%)	Potential Property Impacts (10%)	Cost (5%)
7	P_1_Employment_Commercial							
9	P_1_Parks_Recreation							
11	P_2_Parks_Recreation							
13	P_3_Parks_Recreation							
14	P_4_Parks_Recreation							
15	P_5_Parks_Recreation							
16	P_1_Schools							
17	P_1_Shopping_Entertainment							
18	P_2_Internal							
19	P_3_Internal							
20	P_1_Public							
21	P_2_Public							
22	P_3_Public							
23	P_1_Past_Studies							
1	NB_1_Employment_Commercial							
2	NB_1_Parks_Recreation							
4	NB_1_Schools							
8	NB_1_Internal							

Scoring is Preliminary and for discussion of weighting criteria only

# Decision Matrix Categories

- **Connectivity** – (within a  $\frac{1}{4}$  mile of alignment)
  - Schools
  - recreation facilities
  - commercial locations
  - cultural resources
  - population
- **Safety** – Number of conflicts points with motor vehicles along an alignment
  - commercial driveways
  - Intersections
  - mid-block street crossings.
- **Security** – (within 50 feet of an alignment)
  - residentially zoned parcels within 50 feet of an alignment

# Decision Matrix Categories

- Facility Type – (Length of trail that is either off-road or on-road)

- Off Road

- **Multi-use trails**
- Rail with trail
- Side paths
- Separated bike lanes



# Decision Matrix Categories

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# Decision Matrix Categories

- Facility Type – (Length of trail that is either off-road or on-road)

- On Road

- **Buffered Bike Lanes**
- Bike Lane
- Shared Roadway
- Shoulder



# Decision Matrix Categories

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- On Road

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- Bike Lane
- Shared Roadway
- **Shoulder**



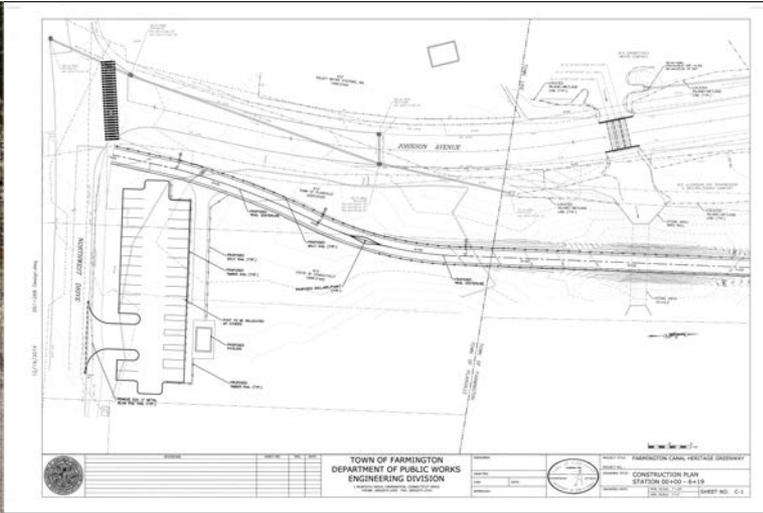
# Decision Matrix Categories

- Environmental
  - wetlands (acreage of impacts)
  - Floodplain (percent of alignment within 100 year floodplain)
  - Natural Diversity Database (does alignment cross a NDDDB area)
  - Historic resources (within 50 feet of alignment),
  - Hazardous Material Locations (within 10 feet of alignment)
  - Additional impervious surface. (new pavement)



# Decision Matrix Categories

- Right-of-Way Impact (number within 20 feet of alignment)
  - Private properties
  - Public properties
- Cost –
  - Design
  - Construction
  - Maintenance



# Decision Matrix Weighting

- Connectivity – 20%
- Safety/Security – 25%
- Facility Type – 30%
- Environmental – 10%
- Right-of-Way Impact – 10%
- Cost – 5%



# Decision Matrix Methodology

- Normalizing of values
- Positive attributes rated 10 to 1
- Negative attributes rated 1 to 10
- Category score based on average of normalized values
- Alignment score based on weighting applied to category score

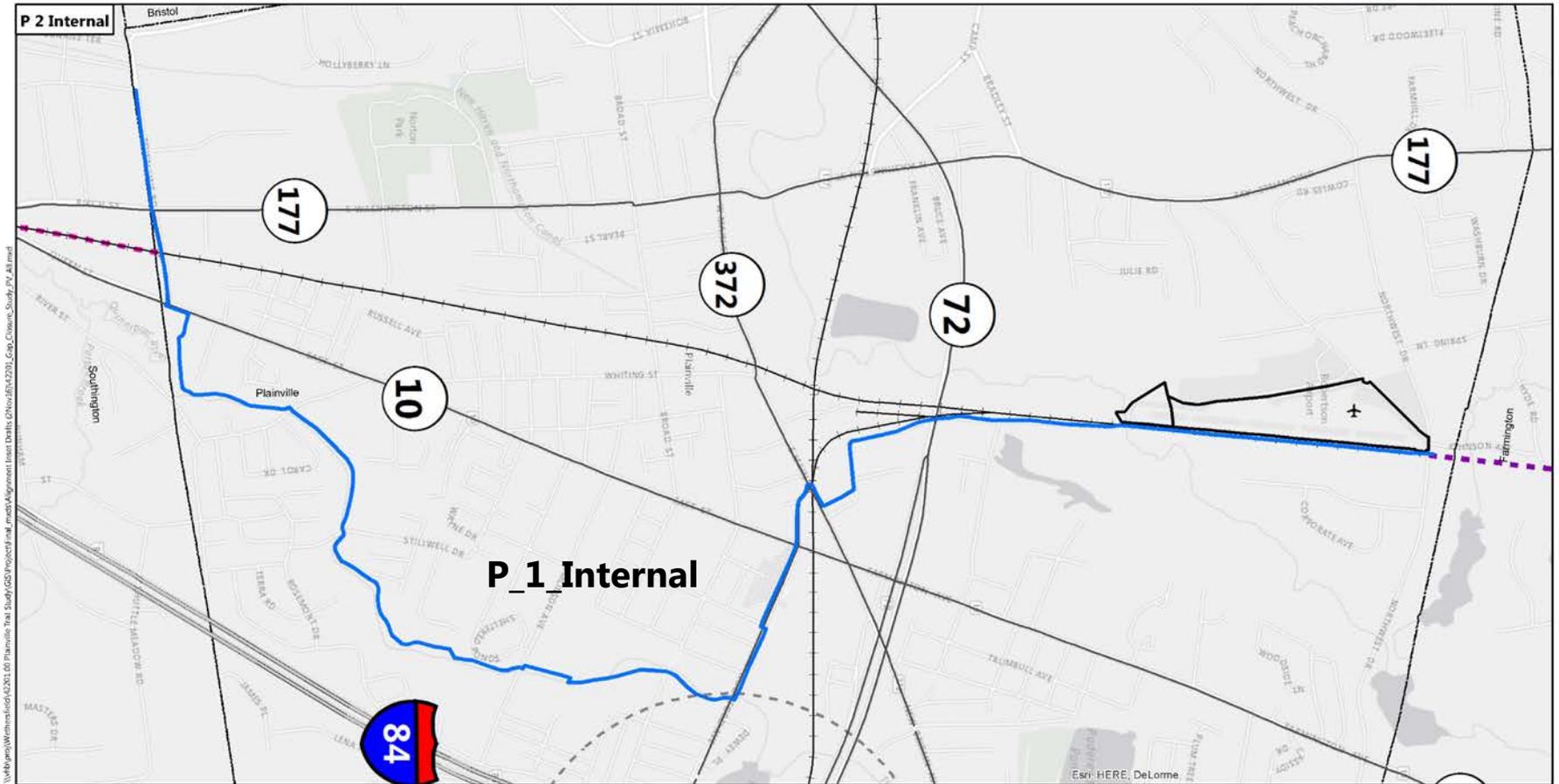


# Decision Matrix Summary

Map #	Alternative Alignment Name	Overall Score	Connectivity (20%)	Safety/Security (25%)	Facility Type (30%)	Environmental (10%)	Potential Property Impacts (10%)	Cost (5%)
7	P_1_Employment_Commercial							
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17	P_1_Shopping_Entertainment							
18	P_2_Internal							
19	P_3_Internal							
20	P_1_Public							
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22	P_3_Public							
23	P_1_Past_Studies							
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2	NB_1_Parks_Recreation							
4	NB_1_Schools							
8	NB_1_Internal							

**Scoring is Preliminary and for discussion of weighting criteria only**

# Top Alignment - Plainville



0 0.125 0.25 0.5 Mile

- Interstate
- State Highway
- Rail with Trail, Railroad Active rail, Gap Being Studied
- Multi-use trail, Under construction
- Rail with Trail, Multi-use trail, In design
- Town Boundary
- Rt 72 Buffer
- Half Mile Radius

Gap Closure Trail Study

Hartford County, CT

## Plainville Proposed Alignments

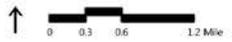
Source Information:  
Map and Geographic Information Center -  
University of Connecticut, US Census Bureau

# Top Alignment - New Britain



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- CTastrak Stations
- Interstate
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4	NB_1_Schools							
8	NB_1_Internal							

**Scoring is Preliminary and for discussion of weighting criteria only**

# Connectivity

Map #	Alternative Alignment Name	Length of Alternative (miles)	Connectivity (20%) Within 1/4 mile of resource										Category Score	
			Schools		Recreational Facilities		Commercial Locations		Cultural Resources		Population			
			How many Schools - Number	Schools Score	How many Rec Fac - Number	Recreational Facilities Score	How many - Number	Commercial Locations Score	How Many - Number	Cultural Resources Score	Total Population Served	Population Score		
7	P_1_Employment_Commercial													
9	P_1_Parks_Recreation													
11	P_2_Parks_Recreation													
13	P_3_Parks_Recreation													
14	P_4_Parks_Recreation													
15	P_5_Parks_Recreation													
16	P_1_Schools													
17	P_1_Shopping_Entertainment													
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4	NB_1_Schools													
8	NB_1_Internal													

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# Safety and Security

Map #	Alternative Alignment Name	Length of Alternative (miles)	Safety / Security (25%)									Category Score
			Number of Conflicts along Alternative									
			Safety - Commercial Driveways		Safety - Intersections		Safety - Mid-Block Crossings		Security - Proximity to homes (w/in 50')			
			Number of Driveways	Driveways Score	Number of Intersections	Intersections Score	Number of Mid-Block Crossings	Mid-Block Crossings Score	Number of homes, etc.	Number of Homes Score		
7	P_1_Employment_Commercial											
9	P_1_Parks_Recreation											
11	P_2_Parks_Recreation											
13	P_3_Parks_Recreation											
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4	NB_1_Schools											
8	NB_1_Internal											

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# Facility Type

Map #	Alternative Alignment Name	Length of Alternative (miles)	Facility Type (Off / Adjacent to / On Road) (30%) Percent of On / Adjacent / Off Road						Category Score
			Multi-use Trail or Rail with Trail (Off-Road)		Side Path or Separated Bike Lane (SBL) (Off-Road)		Buffered Bike Lane, Bike Lane, Shared Lane or Shoulder (On-Road)		
			% of Length	Score	% of Length	Score	% of Length	Score	
7	P_1_Employment_Commercial								
9	P_1_Parks_Recreation								
11	P_2_Parks_Recreation								
13	P_3_Parks_Recreation								
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17	P_1_Shopping_Entertainment								
18	P_2_Internal								
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21	P_2_Public								
22	P_3_Public								
23	P_1_Past_Studies								
1	NB_1_Employment_Commercial								
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4	NB_1_Schools								
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# Facility Type - Assumptions

- Through open space: off road
- Along limited access highway: adjacent to road
- Along State route: 50% adjacent to / 50% on road
- Along local road: on road
- Along Northwest Drive: off-road
- Along Black Rock Ave: adjacent to road, from Crooked Street to Wooster Street. Tilcon quarry / high heavy truck traffic

Category Score
7.33
5.67
7.00
6.67
6.00
5.00
4.00
4.00

22	P_3_PUL
23	P_1_PAS
1	NB_1_E
2	NB_1_P
4	NB_1_S
8	NB_1_I



# Environmental

Map #	Alternative Alignment Name	Length of Alternative (miles)	Environmental (10%)										Category Score		
			Wetland Impact (acres)		100 Year Floodplain (% within)		NDDB <sup>(1)</sup> (Y/N)		Negative Affect Historic Resources		Hazardous Material Site			Impervious Surface (acres)	
			Impact based on 20' wide buffer around Center Line	Wetland Impact Score	% of length within Floodplain	Floodplain Impact Score	Within a NDDB area Yes or No <sup>(2)</sup>	NDDB Score	Number w/in 50' of Center Line	Historic Resources Score	Number w/in 10' of Center Line	Hazardous Material Site Score		New pavement (length x10' wide)	Impervious Surface Score
7	P_1_Employment_Commercial														
9	P_1_Parks_Recreation														
11	P_2_Parks_Recreation														
13	P_3_Parks_Recreation														
14	P_4_Parks_Recreation														
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Scoring is Preliminary and for discussion of weighting criteria only

(1) - Natural Diversity Database  
 (2) - Yes=1, No=0

# Potential Property Impacts

Map #	Alternative Alignment Name	Length of Alternative (miles)	Potential Property Impacts (10%) (Center Line within 20' of property)				Category Score
			Private (number)		Public (number)		
			Number of Potential Impacts	Private Property Score	Number of Potential Impacts	Public Property Score	
7	P_1_Employment_Commercial						
9	P_1_Parks_Recreation						
11	P_2_Parks_Recreation						
13	P_3_Parks_Recreation						
14	P_4_Parks_Recreation						
15	P_5_Parks_Recreation						
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# Costs

Map #	Alternative Alignment Name	Length of Alternative (miles)	Cost (5%)						Total Cost	Category Score
			\$ / LF Off road	\$ / LF on road	\$ / intersections	\$ / LF Maintenance MUT	\$ / LF maintenance On Road			
			Cost of design and Const of MUT	Cost of Design and Const of On Road	Cost of modification of a typical intersection	Cost of Annual Maintenance	Cost of Annual maintenance			
7	P_1_Employment_Commercial									
9	P_1_Parks_Recreation									
11	P_2_Parks_Recreation									
13	P_3_Parks_Recreation									
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2	NB_1_Parks_Recreation									
4	NB_1_Schools									
8	NB_1_Internal									

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# Costs - Assumptions

- Design and Const off road facility - \$190/lf
  - If alignment goes through wetlands: boardwalk - \$60/sf
- Design and Const On Road facility - \$3.50/lf
- Cost per Intersection\* - \$1,000 / intersection
- Maintenance Off Road facility \$0.40/lf
- Maintenance On Road facility – \$3.00/lf

# Decision Matrix Summary

- Category Weightings
  - The Good
  - The Bad
  - The Ugly

Alternative Alignment Name	Overall Score	Connectivity (20%)	Safety/Security (25%)	Facility Type (30%)	Environmental (10%)	Potential Property Impacts (10%)	Cost (5%)
P_1_Employment_Commercial	5.50	5.0	5.0	5.5	5.0	5.0	5.0
P_1_Parks_Recreation	5.18	5.0	5.0	5.7	5.2	5.0	5.0
P_2_Parks_Recreation	5.56	5.0	5.0	5.6	5.1	5.6	5.0
P_3_Parks_Recreation	5.06	5.0	5.0	5.7	5.0	5.0	5.0
P_4_Parks_Recreation	4.94	5.0	5.0	5.0	5.0	5.0	5.0
P_5_Parks_Recreation	5.78	5.0	5.0	5.0	5.0	5.0	5.0
P_1_Schools	5.50	5.0	5.0	5.0	5.0	5.0	5.0
P_1_Shopping_Entertainment	5.21	5.0	5.0	5.0	5.0	5.5	5.0
P_2_Internal	5.88	5.0	5.0	5.0	5.0	5.0	5.0
P_3_Internal	4.80	5.0	5.0	5.0	5.0	4.0	5.0
P_1_Public	5.60	5.0	5.0	5.0	5.0	5.5	5.0
P_2_Public	5.26	5.0	5.0	5.0	5.0	5.0	5.0
P_3_Public	4.72	5.0	5.0	5.0	5.0	5.0	5.0
P_1_Past_Studies	5.15	5.0	5.0	5.0	4.7	5.0	5.0
NB_1_Employment_Commercial	7.26	7.0	7.0	7.0	4.5	4.0	1.0
NB_1_Parks_Recreation	4.90	5.0	5.0	5.0	5.0	5.5	4.0
NB_1_Schools	5.50	5.0	5.0	5.0	5.0	4.0	5.0
NB_1_Internal	7.68	7.0	7.0	7.0	5.0	10.0	10.0

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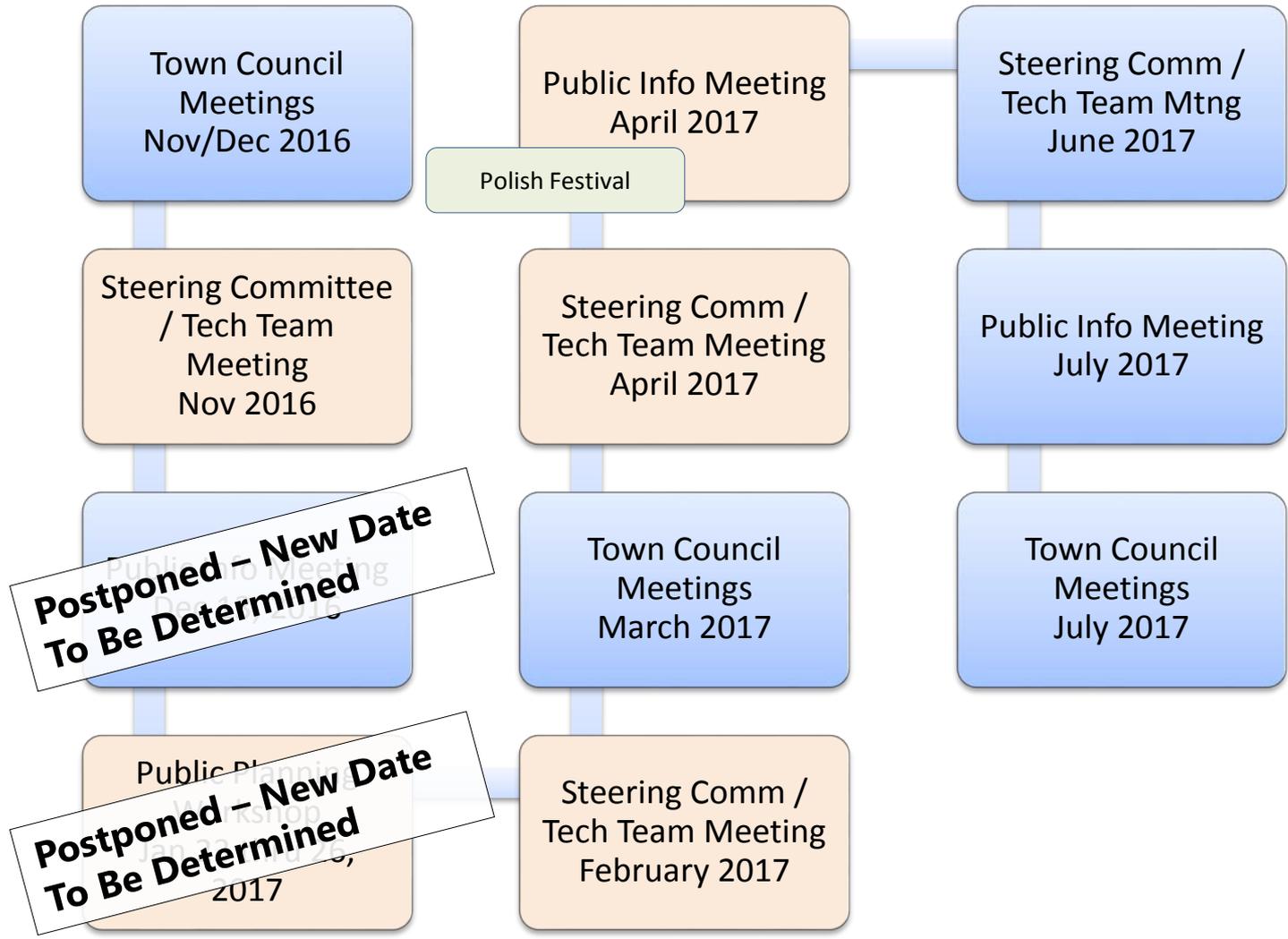
# Next Steps

- Take the Top Alignments and refine them further
  - 4 for Plainville
  - 2 for New Britain
- Have these refined for the January Workshops
  - These workshops will assist in determining the final design product.
  - Workshop will entail attendees determining the best facility for different areas along the corridor.



# Next Steps

**NOTE: Future meeting dates are being revised**



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