



H-GAC 2018 TIP Call for Projects
**Spring Branch Management District
CenterPoint Trail Regional Connector**

Benefit-Cost Analysis Narrative

The Spring Branch Management District CenterPoint Trail Regional Connector will sit within a CenterPoint easement that is between two parallel thoroughfares: Kempwood Drive and Hammerly Boulevard. The inputs within the Benefit Cost Analysis spreadsheets utilize both corridors with start and end points from Beltway 8 on the west to Wirt Road on the east. The information provide below illustrates the analysis results utilizing data from both corridors as well as a combined summary of the two.

Delay-Benefits Template Inputs, Methodology, and Results - Active Transportation

The inputs include the length of the corridor (5.4 miles of continuous trail), type of improvement ("Multimodal Transportation Center (Corridors)"), the year it will be open to traffic based on project development (2024 estimated date), the service life (20 years), and the average daily traffic (supplied ADT for Hammerly and Kempwood individually and combined). The dropdown option describing this project as a "Multimodal Transportation Center (Corridor)" was selected since the trail will provide walking, biking, and transit access. The discounted delay benefit results are presented in the table below.

<i>Corridors</i>	<i>Delay Benefits</i>
Hammerly Boulevard	\$3,383,000
Kempwood Drive	\$2,871,000
Combined Corridors	\$6,709,000

Emissions-Benefits Template Inputs, Methodology, and Results - Active Transportation

The inputs include the year open to traffic (2024), type of improvement ("off street hike & bike trails"), roadway speed (35 mph for both Hammerly and Kempwood), number of new daily users (367), and average one-way trip length (5 for walking/biking use but if using National Household Travel Survey it would be 9.55 miles). The estimated new daily users is based off of enrollment numbers of the 19 schools the trail would serve, (subtracting Northbrook High School numbers since the trail already supports that school), and assuming 3% of students enrolled within biking/ walking distance of the new potential trail (see table attached). Although many students would not be driving themselves, the emissions savings would come from the parents not needing to drive their kids or sit in drop-off/pick-up lines, especially if located within a two-mile radius (no school bus service within that radius) resulting in an emissions savings. Regarding the "service life", you could argue that it should be 20 years at least instead of 12 per FHWA and other supporting BCA spreadsheets, and could increase the benefit results if adjusted. Total discounted emissions benefit results are presented in the table below.

<i>Corridors</i>	<i>Emissions Benefits</i>
Hammerly Boulevard	\$2,287.00
Kempwood Drive	\$2,345.00
Combined Corridors	\$4,632.00



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Safety-Benefits Template Inputs, Methodology, and Results - Active Transportation

The inputs include the year open to traffic (2024), type of improvement ("off-street hike and bike trails"), estimated new daily users (367), and average one-way trip length (5 miles for ped/bike). These are all the same as provided in the emissions template. Total discounted safety benefit results are presented in the table below.

<i>Corridors</i>	<i>Safety Benefits</i>
Hammerly Boulevard	\$2,879,000.00
Kempwood Drive	\$2,966,000.00
Combined Corridors	\$5,845,000.00

Summary

As this project is reviewed for TIP consideration, if H-GAC requests that the project sponsor chooses which Benefit-Cost Analysis out of those presented is preferred, the combined Hammerly and Kempwood would be preferred. If one roadway facility or the other must be selected, the Hammerly Boulevard would be preferred. See below for the BCA Equation Summaries.



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BCA Equation - Hammerly Boulevard Only (2nd Preferred Option)

Delay Benefits Results	\$3,838,000.00
Emissions Benefits Results	\$2,287.00
Safety Benefits Results	\$2,879,000.00
Total Benefits	\$6,719,287.00
Funding Requested	\$5,182,000.00
Benefit-Cost Ratio (Benefits/Funding Req.)	1.30

BCA Equation - Kempwood Drive Only (3rd Preferred Option)

Delay Benefits Results	\$2,871,000.00
Emissions Benefits Results	\$2,345.00
Safety Benefits Results	\$2,966,000.00
Total Benefits	\$5,839,345.00
Funding Requested	\$5,182,000.00
Benefit-Cost Ratio (Benefits/Funding Req.)	1.13

BCA Equation - Combined Hammerly and Kempwood (Preferred Option)

Delay Benefits Results	\$6,709,000.00
Emissions Benefits Results	\$4,632.00
Safety Benefits Results	\$5,845,000.00
Total Benefits	\$12,558,632.00
Funding Requested	\$5,182,000.00
Benefit-Cost Ratio (Benefits/Funding Req.)	2.42