Technical Memo 8:
Draft Cost Estimates -
Bus Rapid Transit and MnPASS

Highway 169 Mobility Study

Draft

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HNTB

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Introduction

The Highway 169 Mobility Study is a collaboration between MnDOT, Metropolitan Council, and Scott County. This technical memorandum provides capital cost estimates for three alternatives considered in the Mobility Study, and annualized cost estimates for two bus rapid transit (BRT) alternatives in the Mobility Study.

- Alternative 1: BRT on US 169 and I-394; MnPASS on US 169
- Alternative 2: BRT on US 169 and I-55; MnPASS on US169
- Alternative 3: MnPASS on US 169 to I-494

See the *Detailed Definition of Alternatives* memorandum for additional information on the alternatives. Capital cost estimates for all three alternatives employ a combination of MnDOT cost estimating methodology using Length Width Depth (LWD) factor and the Federal Transit Administration's Standard Cost Categories (SCC) and their corresponding templates. The capital cost estimate and annualized estimate methodology is described below.

Capital Cost Estimates

Capital costs for the alternatives are estimated with methodologies described below. The three alternatives' capital cost estimates considered in this study employ a combination of BRT and MnPASS cost estimating methodologies.

Bus Rapid Transit Capital Cost Methodology

Capital costs for BRT alternatives are built from base unit costs per station location, and summarized for each alternative.

Standard Cost Categories

The base unit costs use Standard Cost Categories (SCC) from the Federal Transit Administration (FTA) template for Small Starts capital projects. The template provides the categories shown in Table 1.

Table 1: Standard Cost Categories FTA Small Starts

10 GUIDEWAY & TRACK ELEMENTS (route miles)
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS
40 SITEWORK & SPECIAL CONDITIONS
50 SYSTEMS
60 ROW, LAND, EXISTING IMPROVEMENTS
70 VEHICLES (number)
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)
90 UNALLOCATED CONTINGENCY
100 FINANCE CHARGES

The BRT capital cost estimates (BRT estimates) assumed standard cost categories and summarized results per station, and per alternative presented in Appendix A.

The BRT estimate assumed base unit costs for elements including civil site work and the station platforms. The base unit costs were validated using MnDOT 2016 average bid costs, HNTB professional judgment, and similar highway BRT projects. The items and their corresponding costs are found in Appendix C. Each BRT station platform is assigned the same base unit costs, with different take-off quantities based on the BRT concept alternatives completed in April 2017 and documented in the *Detailed Definition of Alternatives* memorandum. Refer to Appendix A for specific quantities per station.

The per station location costs are summarized and aggregated by route:

- Alternative 1: BRT on Highway 169, from Marschall Road in Shakopee to Betty Crocker Drive and east into downtown Minneapolis via I-394
- Alternative 2: BRT on Highway 169 from Marschall Road in Shakopee to Betty Crocker Drive, and east into downtown Minneapolis via TH 55

The BRT capital cost estimates per alternative are included in the SCC template workbook in Appendix B and in the Capital Costs Results section below. The BRT capital costs in the SCC template assumes 2017 as a base year, 2028 as the midpoint of construction, and 2030 as the first year of operation. The SCC also includes additional capital cost of buses and costs for the additional storage and capacity in existing maintenance facilities. The following assumptions are included in these costs:

- $750,000 per bus (26 buses)
- $234,000 per bus for the cost of garage expansion (26 buses)
- $3,900,000 for initial vehicle storage and maintenance allowance of the fleet

These assumptions are based on similar corridor costs from a planning study for the METRO Red Line. A per bus cost was calculated from the Red Line costs, then multiplied by 26 buses for the *Highway 169 Mobility Study*. Costs for each BRT alternative are found below in the Capital Cost Results.

The base routing for the BRT station locations is based on comment and input from Project Management Team (PMT) and Technical Advisory Committee (TAC) meetings, as well as consultant recommendations, during 2016 and through April 2017. The base routing was established in early 2017 and forms the basis for the ridership forecast and these cost estimates. Therefore, the capital costs estimated for BRT do not include the following optional station locations in the alternative totals. The optional stations and corresponding costs are found in the Appendices, but not in the Capital Costs Results section of this memorandum.

Optional Station Locations

78th Street

An optional station location that would significantly impact the capital cost of both alternatives includes an online Washington Avenue/Viking Drive station and its connection with the future arterial BRT along American Boulevard. The Washington Avenue/Viking Drive station could be an online station over 78th Street, depending on whether the existing bridge could accommodate station platforms. Conceptual engineering suggests that the bridge could be retrofitted to both the inside and outside to accommodate MnPASS lanes (used by BRT) and to the outside to accommodate station platforms and elevator towers. To accommodate an online station at 78th Street, MnPASS could be reconfigured for BRT bus use.

Cedar Lake Road

Station location options for Cedar Lake Road include four different interchange configurations described below. Sidewalk, curb and gutter, new bridges, bridge removals, and BRT lane pavement costs were separated from the MnPASS estimates if they were only necessary for BRT operations, and not necessary for MnPASS operations. The Cedar Lake Road interchanges include:

- Base: Online station, with elevator towers (in Alternatives 1 and 2 BRT Capital Cost Results)
- Online station, with station platforms on the bridge
- Offset single point interchange, with station platforms on far side of the intersection, on the on and off-ramps
- A service road east of Highway 169 with station platforms, with BRT access from the Minnetonka Boulevard on- and off-ramps

Each optional station location concept is further described in the *Detailed Definition of Alternatives* memorandum.

MnPASS Costs versus BRT Costs

In general, MnPASS costs are calculated separately from BRT routing and station costs. By providing them separately, the costs of alternatives (BRT elements, MnPASS elements, or a combination of the two) can be compared. From a construction standpoint, the MnPASS capital cost estimate can stand alone; however, the BRT costs assume that BRT elements are constructed in conjunction with a MnPASS project.

For example, in compliance with MnDOT standards, new 10-foot shoulders would be constructed for MnPASS operations. BRT however requires a 12-foot shoulder for bus operations on shoulders to meet Metro Transit recommended standards. Thus a 10-foot shoulder is quantified as a MnPASS cost, while the BRT would assume the cost of the additional 2 feet required to accommodate BRT routing.

Another example is the Cedar Lake Road interchange. The MnPASS and BRT alternatives at this interchange show a reconstruction of the Cedar Lake Road bridge crossing over Highway 169. An online station alternative provides the station platforms on the new bridge deck. The concrete bridge deck serves as a station platform in this scenario. In the BRT cost estimate, there is not an associated cost for a concrete platform. Only station elements are quantified within the BRT cost estimate. The bridge however will sustain higher loadings, including a higher dead load, due to the BRT amenities placed at stations. Thus, the bridge will have a higher associated cost associated only with the BRT estimate. This was accounted for with an assumed additional thickness of 2" to the bridge deck, only within the BRT cost estimate.

MnPASS Capital Cost Methodology

The capital cost estimate for MnPASS is based on the MnDOT Length Width and Depth (LWD) estimating method. The LWD method, created to produce uniform and repeatable cost estimates, calculates the costs associated with a project based on the project's pavement properties. A construction cost based on this LWD method is found using the following equations:

Pavement Area * Pavement Depth = LWD Factor

Const. Cost ($) = LWD Factor * LWD Cost Multiplier

LWD Factors

An LWD factor is a collective volume for each roadway item and is used per cubic feet of pavement. The LWD factor is calculated using a MnDOT LWD spreadsheet, and includes the following construction elements:

- Mobilization
- Removals/salvage (note included under this major item group are bridge removals or building removals)
- Grading
- Aggregates
- Paving B: Bituminous milling and paving (base, binder, wear and tack).
- Paving C: Concrete paving (standard and irregular), structural concrete, expansion joints, dowels, reinforcing bars, and bridge approach panels.
- Drainage
- Concrete items
- Traffic control
- Turf/erosion control
- Median barrier (for $90,000 cost multiplier)

The following additional project elements are not associated with the LWD factor and require a separate cost estimate, included in Appendix E:

- Drainage costs above normal needs
- Roadway lighting
- Interchange lighting
- Noise walls
- Retaining walls
- Traffic Management System (TMS)
- Overhead signs
- Signals
- Median barrier (for $170,000 cost multiplier)

LWD Cost Multiplier

The LWD cost multiplier is a cost per volume of pavement based on similar historical projects.

For this Highway 169 Mobility Study, MnDOT provided LWD cost multipliers of $90,000 and $170,000. The LWD cost multiplier of $90,000 is used for segments that expand the roadway to the inside to accommodate MnPASS, retrofit, or reconfigure lanes, and for segments with less complex engineering challenges. This LWD cost multiplier is based on State Project 6281-47, a similar MnPASS project along I-35E, let in 2016. Within this cost multiplier, median barrier is not included and the cost is added separately within each Segment, see Appendix E.

The higher LWD of $170,000 is used for segments with sections of complete reconstruction and complex engineering. This LWD cost multiplier is based on State Project 2734-33, an urban freeway project let in 2014 (TH 100 reconstruction). Median barrier is within this LWD cost multiplier.

A separate bridge LWD cost multiplier, $170 per square foot, is used for new bridge construction. The new bridge multiplier is based on the MnDOT State Aid Bridge Office 2016 Calendar Year Bridge Cost Report. From this report, the average cost for steel beam, concrete slab, and precast beam bridges was calculated to be $167 per square foot, and rounded up to $170. A factor of $75 per square foot is used for rehabilitating an existing bridge. A factor of $250 per square foot is used for widening existing bridges. Additional cost for bridge widening is due to additional labor to widen the bridge by removing portions of the existing bridge, tying into the existing bridge and working in confined areas to construct the bridge addition.

MnPASS LWD Template

The MnPASS concepts are divided into nine segments to estimate capital cost (see Appendix E). The segment divisions allow for multiple cost options, either a higher or lower build option, within the corridor (see Table 2 for locations). In each segment, the new mainline pavement, shoulder pavement, and sidewalk and existing mainline and shoulder are measured in square feet and included in the LWD template (see Appendix D). For bridges, the existing areas to remain, new bridge and bridge widening are calculated in square feet. Table 2 provides the location and associated LWD cost multiplier. The following section briefly describes each segment. See the *Detailed Definitions of Alternatives* memorandum for more detailed description of conceptual engineering for each segment.

Table 2: MnPASS Cost Estimating Segments

Segment	Begins	Ends	LWD Cost Factor Used
1	Marschall Rd	S of I-494	$90,000
2	S of I-494	N I-494	$170,000
3	N I-494	S of TH 62 Interchange	$90,000
4	S of TH 62 Interchange	N of TH 62 Interchange	$170,000
5	N of TH 62 Interchange	N of Interlachen Boulevard	$90,000
6	N of Interlachen Boulevard	S of Bridge at 2nd St	$170,000
7	S of Bridge at 2nd St	S of Bridge at Minnetonka Boulevard	$170,000
8	S of Bridge at Minnetonka Boulevard	W 16th St	$170,000
9	W 16th St	TH 55	$170,000

Segment Descriptions

For additional description of the segments and their base options, see the *Detailed Definition of Alternatives* memorandum.

Segment 1 (Marshall Road to south of I-494 interchange) expands Highway 169 to the inside for the MnPASS lanes. Two options were evaluated for this segment, the differences in the amount of work on the Bloomington Ferry Bridge. The base, or lower build option or Segment 1, uses the existing width with minor widenings, lane reconfiguration, and smaller shoulder widths. The higher build is Segment 1a. This option provides expansion to both the inside and outside of several spans of the bridge as well as reconfigure the lanes. The main purpose for these expansions is to accommodate the recommended lane and shoulder widths. See Appendix B, Sheet 6B and typical section (last page).

Segment 2 (south of I-494 to north of I-494 interchange) expands Highway 169 to the inside for the MnPASS lanes. Segment 2 is divided into lower and higher build options. Segment 2a is the base, or lower build, option where only MnPASS is built and the directional bridges over Highway 169 are expanded accordingly. Segment 2b is the higher build option with both MnPASS lanes center running and widened shoulders to for BRT routing to include an online BRT station built at the bridge crossing over West 78th Street.

Segment 3 (north of I-494 to south of TH 62 interchange) expands Highway 169 to the inside for MnPASS.

Segment 4 (south of TH 62 interchange to north of TH 62 interchange) expands Highway 169 to the inside for MnPASS. This segment has the higher LWD Cost ($170,000

per volume) associated with it due to a significant amount of reconstruction required, including adjustments to the ramp loops for the TH 62 interchange.

Segment 5 (north of TH 62 interchange to north of Interlachen Boulevard) expands Highway 169 to the outside, adjusts ramp connections, and reconfigures lanes. This segment utilizes a significant portion of existing pavement. Replacement of the bridge over Nine Mile Creek is scheduled to be completed in November 2017 under a different project. The bridge replacement will provide adequate width on the bridge to accommodate future MnPASS lanes without additional bridge widening or structure modification.

Segment 6 (north of Interlachen Boulevard to south of Bridge at 2nd Street) expands Highway 169 to the outside. Options were explored at the Excelsior Boulevard crossing. Segment 6 is the base, or lower build, option providing a small expansion to the west edge of the bridge. In this option, northbound Highway 169 has a MnPASS lane and two thru lanes. Segment 6a, or higher build option, provides a larger expansion to the west side of the bridge which allows for northbound Highway 169 to contain a MnPASS lane, two thru lanes, and an auxiliary lane. This option will require retaining walls to be constructed. Northbound existing conditions for this area include two thru lanes and an auxiliary (exit) lane.

Segment 7 (south of Bridge at 2nd St to south of Bridge at Minnetonka Boulevard) expands Highway 169 to both the inside and outside in various locations, adjusts ramp connections, and reconfigures lanes.

Segment 8 (south of Bridge at Minnetonka Boulevard to West 16th Street) contains four different options. At Cedar Lake Road, the existing configuration includes button hook ramps south of Cedar Lake Road. With the expansion of Highway 169 for MnPASS, these button hooks are no longer viable, therefore several interchange options were considered. Segment 8, the base or comparatively lower build option, includes an offset interchange. The three additional options considered include,

- Segment 8a, a single point offset interchange
- Segment 8b, an offset interchange with an online BRT station at Cedar Lake Road
- Segment 8c, a service road connecting Cedar Lake Road to the Minnetonka Boulevard interchange

The three options explore multiple solutions to seamlessly move traffic between Highway 169 and Cedar Lake Road as well as maintaining local road access. Some examples of infrastructure included in these alternatives include ramps on new bridges over Highway 169, local traffic rerouted over Highway 169, local traffic rerouted under Highway 169, or a service road running parallel to Highway 169 to connect to the Minnetonka Boulevard interchange. All options require various amounts of regrading and retaining walls.

Segment 9 (West 16th Street to TH 55) includes the TH 394 and TH 55 interchanges. Two options were explored for this segment. The base or lower build option retains most of the

existing interchange infrastructure and expands as required for the MnPASS lanes. The higher build option is a large turbine interchange at I-394 and a reconfiguration of the TH 55 interchange.

See the *Detailed Definition of Alternatives* memorandum for more detailed description of the evaluation between segment options and concepts.

A contingency and risk factor of 20% was added to each project item. Using the existing pavement quantities, an estimate for the rehabilitation of pavements can be estimated. The rehabilitation required is dependent on the year of construction and therefore is shown as a separate cost rather than included in BRT or MnPASS estimates. The rehabilitation costs are seen in the Summary sheet for each Segment and each Alternative in Appendix D. The costs are calculated from the existing mainline quantity which can be found in the Capital Costs per Segment, in Appendix E.

Capital Cost Results

BRT

The BRT capital cost estimates were similar for each alternative. The capital cost estimate totals in Appendix A are provided for costs for stations and costs for the Alternatives which include operations and maintenance facility (OMF) and capital cost of the bus fleets for the BRT. The total capital cost estimates including OMF and fleet costs are $67.4 million for Alternative 1 and $69.0 million for Alternative 2 in 2017 dollars. See below for annualized capital cost estimates within the SCC templates.

MnPASS

The MnPASS base capital cost estimates for Alternatives 1 and 2 range between $337.9 and $629.5 million. The base capital cost estimate for Alternative 3 ranges between $113.0 and $133.0 million.

Alternatives

The capital costs were calculated for a base year of 2017. The capital cost estimates for Alternatives 1, 2, and 3 are built by summation. The total base MnPASS costs assume existing pavement can be salvaged and thus do not include rehabilitation. See Table 3 for separate pavement rehabilitation costs specific to each alternative.

The total cost for Alternative 1 includes Segments 1 thru 9 from the MnPASS capital cost estimates combined with the BRT Stations along Highway 169 and I-394. The capital cost estimate ranges between $396.3 million and $658.6 million for Alternative 1.

The total cost for Alternative 2 includes the same Segments 1 thru 9 from the MnPASS capital cost estimate combined with the BRT stations along Highway 169 and TH 55. The capital cost estimate ranges between $397.9 million and $660.2 million. See Table 3.

The total cost for Alternative 3 include Segments 1 and 2 from the MnPASS capital cost estimates, and do not include BRT, therefore no routing or station capital costs.

Table 3: Capital Cost Estimate Results

Base Year 2017	**Alternative 1: BRT on Highway 169 & I-394; MnPASS on Highway 169**	**Alternative 2: BRT on Highway 169 & TH 55; MnPASS on Highway 169**	**Alternative 3: MnPASS on Highway 169 to I-494 (no BRT)**
BRT	$67.4 million	$69.0 million	N/A
MnPASS	$328.9 million (low) $591.2 million (high)	$328.9 million (low) $591.2 million (high)	$115.8 million (low) $135.7 million (high)
Pavement Rehabilitation	$274.0 million	$274.0 million	$179 million
Total	$670.3 million (low) $932.6 million (high)	$671.9 million (low) $934.2 million (high)	$294.8 million (low) $314.7 million (high)

BRT Annualized Cost Estimates

The annualized costs are based on capital costs of the BRT route and stations within each alternative. The capital costs methodology is explained above. The annualized costs are calculated to provide a cost effectiveness index as an evaluation criteria in the *Evaluation Summary Report* memorandum.

SCC Template

The template includes inflated capital costs based on a compounding 3.5% per year inflation rate. Inflated capital costs per alternative calculated in the SCC template assume a 2017 base year, 2028 as the midpoint of construction, and 2030 as the opening year of operation.

SCC costs are calculated based on unit costs and quantity takeoffs from the April 2017 concepts. Costs are then inserted into the SCC Small Starts Build Main templates, as the base year. Annual capital costs within the SCC templates are based on the useful life of scope elements and 2% discount rate for both Small Starts and New Starts.

Cost Effectiveness Index

Federal Transit Administration methodology formulas for cost effectiveness index include an annualized capital cost based on results from the SCC template.

Cost Effectiveness Index (CEI) for Small Starts BRT project = Annualized Federal share of Project Capital Cost (2017$) from SCC worksheet / Annual linked trips on the project with no extra weight for trips by transit dependent persons.[1] The annualized capital costs assumes a federal cost share of 50% and 50% from non-federal sources.

CEI for New Starts BRT project = Annualized Capital Cost of the project (minus "enrichments") (2017$) from SCC worksheet + Annual Operating Cost of the project / Annual linked trips on the project with no extra weight for trips by transit dependent persons. The New Starts CEI value for the BRT alternatives is higher than the CEIof the Small Starts, as it includes the annual operating costs and does not include the 50% federal share of the costs within Small Starts.[2] The New Starts CEI was calculated using the formula, and therefore double the annualized capital costs from the SCC Small Starts template.

[1] "Section 5309, Capital Investment Program: New and Small Starts Evaluation and Rating Process". Federal Transit Administration. August 2013. Pg. 34
https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/Final_Policy_Guidance_outreach_slides_-_August_2013_FINAL.pdf

[2] "Section 5309, Capital Investment Program: New and Small Starts Evaluation and Rating Process". Federal Transit Administration. August 2013. Pg 32.
https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/Final_Policy_Guidance_outreach_slides_-_August_2013_FINAL.pdf

Annual ridership is estimated with ridership models and documented in the *Traffic Operations and Transit Forecasting Technical* memorandum. The *Highway 169 BRT Transit Service Plan and Operations and Maintenance Costs* memorandum provides the methodology for the annualized operating costs used in the CEI calculation.

Table 4: Annualized Ridership and Operating Costs

	Alternative 1: BRT Hwy 169 & I-394	Alternative 2: BRT Hwy 169 and TH 55
Annualized Operating Costs	$16,521,500	$17,142,900
Annualized Ridership	2,294,000	2,046,000

Annualized Capital Cost Estimates

The annualized cost is used to calculate the CEI for a Small Starts BRT project.

Table 5: Small Starts CEI

	Alternative 1: BRT Hwy 169 & I-394	Alternative 2: BRT Hwy 169 and TH 55
Annualized Capital Costs	$1,888,000	$1,918,000
Annualized Ridership	2,294,000	2,046,000
Cost Effectiveness Index (CEI)	0.82	0.94

The CEI for a New Starts project is higher than small starts because it adds the annual operating costs of the project and divides this by annual ridership. New Starts is included in the study for comparison purposes only between alternatives, as the alternatives within this study are Small Starts projects.

Table 6: New Starts CEI

	Alternative 1: BRT Hwy 169 & I-394	Alternative 2: BRT Hwy 169 and TH 55
Annualized Capital Costs	$3,776,000	$3,836,000
Annualized Operating Costs	$16,521,500	$17,142,900
Annualized Ridership	2,294,000	2,046,000
Cost Effectiveness Index (CEI)	8.85	10.25

Appendix A: Station Summary and Breakdown (BRT)

	TH 169 Transitway BRT: Capital Cost Estimates																						
	Begin Design / Construction	TBD	TBD	TBD	TBD	TBD	*TBD*	TBD	TBD	TBD	*TBD*	*TBD*	*TBD*	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TH 169 Stations	TH 169 Stations
	Estimated Begin Operation	TBD	TBD	TBD	TBD	TBD	*TBD*	TBD	TBD	TBD	*TBD*	*TBD*	*TBD*	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	I-394 Stations	TH 55 Stations
		Marschall Rd	**Canterbury Rd**	**Southbridge**	**Pioneer Trail**	**Washington Ave/Viking Dr**	***78th St***	**Bren Rd**	**Hopkins**	**Cedar Lake Rd**	***Cedar Lake Rd***	***Cedar Lake Rd***	***Cedar Lake Rd***	**Betty Crocker Dr**	**Louisiana Ave**	**West End**	**Hawthorne Ave**	**TH 55 Stations**	**7th St**	**7th St Transit Center**	**Downtown Stations**	**Total**	**Total**
	Status	Park and Ride	Park and Ride	Park and Ride		Current concept	*Option*				*Option A*	*Option B*	*Option C*				Only I-394 Route; Only serves Outbound	4 In-line Stations		Only TH 55, At corner of Glenwood Ave/9th St/2nd Ave N	160' platforms		
	2016 dollars	Bus only slip ramp into existing transit center	Seagate Parking Lot	Off-line, add stations to existing bus turnaround in Park and Ride	New NB and SB station Inline Entrance Ramp	Rebuild 78th St bridge for online station	*Reconfigure MnPASS and BRT lanes and bridge for online station*	New NB and SB station Inline Entrance Ramp	Add platforms to existing SWLRT station	Offset Interchange; in-line stations, platforms on bridge	*On-line stations; Offset Interchange, with elevator towers*	*Off-line stations; Single point interchange*	*Off-line stations on Service Rd, with elevator towers*	Off-line station, either along Drive or in General Mills parking lot	In-line stations, on ramps, existing ramps	In-line, redo parking lot to create slip ramp EB station	In-line station	Winnetka Ave N (2), Douglas Dr (2), Theodore Wirth Parkway (2), Penn Ave N (2)	In-line station; use future C-Line infrastructure	In-line Station	Hennepin Ave (2), Nicollet Mall (2), 3rd Ave (2)		
	Uses of Funds																						
SCC	Capital Costs																						
10	**10 GUIDEWAY & TRACK ELEMENTS (route miles)**																						
10.01	Bus loading unloading areas (11" concrete)	$42,240	$158,862	$42,240	$42,240	$42,240	$42,240	$42,240	$0	$0	$42,240	$42,240	$42,240	$42,240	$42,240	$42,240	$21,120	$168,960	$0	$42,240	$253,440		
10.01	Curb and Gutter (18")	$12,500	$7,575	$6,200	$4,700	$24,825	$0	$1,500	$0	$0	$6,875	$271,800	$8,000	$6,150	$36,375	$32,500	$0	$15,750	$0	$0	$0	$903,667	$956,142
10.01	2' additional required width of bus shoulder - not included in MnPASS																					$871,934	$871,934
	Subtotal																					$1,775,601	$1,828,076
20	**20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)**																						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	$64,000	$64,000	$64,000	$64,000	$64,000	$0	$64,000	$64,000	$0	$64,000	$64,000	$64,000	$64,000	$64,000	$64,000	$32,000	$256,000	$0	$64,000	$192,000		
20.01	Bike Rack	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$9,600	$0	$2,400	$7,200		
20.01	Benches	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$9,600	$0	$2,400	$7,200		
20.01	Station shelter	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$1,200,000	$0	$300,000	$900,000		
20.01	Station signage	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$200,000	$50,000	$50,000	$150,000		
20.01	Trash Receptacles	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$9,600	$0	$2,400	$7,200		
20.01	PA System/Passenger Information Display	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$200,000	$0	$50,000	$150,000		
20.01	Site Lighting	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$200,000	$0	$50,000	$150,000	$7,722,000	$8,846,400
20.02	Bridge Modifications	$0	$0	$0	$0	$0	$14,512,712	$0	$0	$46,966	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$46,966	$46,966
20.07	Elevator Towers	$0	$0	$0	$0	$0	$2,000,000	$0	$0	$0	$0	$2,000,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Subtotal																					$7,768,966	$8,893,366
	30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS																						
	Subtotal																					$9,973,000	$9,973,000
40	**40 SITEWORK & SPECIAL CONDITIONS**																						
40.01	Site Grading	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$13,000	$10,000	$40,000	$0	$10,000	$0		
40.01	Demolition / Removals	$13,500	$15,670	$8,000	$11,610	$30,925	$0	$16,440	$8,000	$0	$18,530	$8,000	$63,555	$35,795	$19,145	$43,000	$4,000	$79,315	$0	$8,000	$24,000	$350,085	$401,255
40.02	Utility Relocation (Fiber, Elec, etc.)	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$200,000	$0	$50,000	$150,000	$750,000	$850,000
40.03	Catch Basins (curb and general pavement) and covers	$12,000	$0	$0	$12,000	$0	$0	$6,000	$0	$0	$0	$0	$0	$0	$12,000	$12,000	$3,000	$12,000	$0	$3,000	$18,000		
40.03	Concrete Storm Sewer Pipe (24") includes fill	$4,250	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,500	$8,500	$4,250	$17,000	$0	$4,250	$25,500	$126,000	$114,000
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	$0	$0	$120,000	$120,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$264,000	$328,000	$0	$0	$0	$0	$0	$832,000	$240,000
40.06	Asphalt Trail	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0		
40.06	Landscaping (planting and seeding) / Aesthetics	$24,960	$53,985	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$104,850	$121,050	$0	$39,840	$0	$0	$0		
40.06	Concrete Sidewalk	$16,500	$23,010	$0	$10,830	$68,772	$0	$25,320	$0	$45,135	$31,590	$0	$166,665	$83,385	$33,435	$105,000	$0	$141,945	$0	$0	$0		
40.06	Bituminous pavement	$18,634	$0	$0	$0	$0	$1,380,368	$0	$0	$0	$0	$248,075	$0	$0	$54,280	$87,610	$0	$7,204	$0	$0	$0		
40.06	Crosswalks	$0	$7,140	$0	$0	$20,400	$4,080	$0	$44,200	$0	$37,400	$0	$0	$0	$5,100	$6,800	$10,200	$6,800	$81,940	$0	$0	$0	$1,018,880	$759,783
40.07	Parking lot striping	$123	$1,278	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$100	$800	$0	$0	$0	$0		
40.07	Handicapped parking symbols and signs (each pair)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$400	$0	$0	$0	$0	$0	$2,701	$1,401
	Subtotal																					$3,079,666	$2,366,439
50	**50 SYSTEMS**																						
50.02	Signal revisions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$50,000	$0	$0	$0	$0	$0		
50.02	Transit Signal Priority (TSP)	$100,000	$150,000	$50,000	$100,000	$0	$0	$100,000	$200,000	$100,000	$100,000	$0	$200,000	$200,000	$200,000	$150,000	$100,000	$350,000	$0	$0	$0	$1,500,000	$1,350,000
50.05	CCTV System	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$400,000	$0	$100,000	$300,000		
50.05	Electrical Data & Other Facilities	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$400,000	$0	$100,000	$300,000	$3,000,000	$3,400,000
50.06	Smart Card Validators	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$80,000	$0	$20,000	$60,000		
50.06	Ticketing Vending Machines	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$600,000	$0	$150,000	$450,000	$2,550,000	$2,890,000
	Subtotal																					$7,050,000	$7,640,000
	Subtotal SCC 10 thru 50																					$29,647,232	$30,700,881
	70 VEHICLES																						
	Subtotal																					$19,500,000	$19,500,000
80	**80 PROFESSIONAL SERVICES (applies to Cats. 10-50)**																						
80.01	Project Development	$23,918	$27,374	$23,553	$25,460	$22,441	$376,450	$23,738	$23,184	$22,334	$22,009	$70,426	$28,633	$26,477	$34,659	$38,850	$21,167	$94,375	$1,000	$20,174	$62,891	$376,046	$396,919
80.02	Engineering	$107,632	$123,185	$105,988	$114,568	$100,984	$1,694,027	$106,821	$104,328	$100,503	$99,039	$316,918	$128,849	$119,148	$155,963	$174,825	$95,253	$424,688	$4,500	$90,782	$283,009	$1,692,207	$1,786,135
80.03	Project Management for Design and Construction	$47,836	$54,749	$47,106	$50,919	$44,882	$752,901	$47,476	$46,368	$44,668	$44,017	$140,853	$57,266	$52,955	$69,317	$77,700	$42,335	$188,750	$2,000	$40,348	$125,782	$752,092	$793,838
80.04	Construction Administration & Management	$47,836	$54,749	$47,106	$50,919	$44,882	$752,901	$47,476	$46,368	$44,668	$44,017	$140,853	$57,266	$52,955	$69,317	$77,700	$42,335	$188,750	$2,000	$40,348	$125,782	$752,092	$793,838
80.05	Professional Liability and other Non-Construction Insurance	$23,918	$27,374	$23,553	$25,460	$22,441	$376,450	$23,738	$23,184	$22,334	$22,009	$70,426	$28,633	$26,477	$34,659	$38,850	$21,167	$94,375	$1,000	$20,174	$62,891	$376,046	$396,919
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$11,959	$13,687	$11,776	$12,730	$11,220	$188,225	$11,869	$11,592	$11,167	$11,004	$35,213	$14,317	$13,239	$17,329	$19,425	$10,584	$47,188	$500	$10,087	$31,445	$188,023	$198,459
80.07	Surveys, Testing, Investigation, Inspection	$11,959	$13,687	$11,776	$12,730	$11,220	$188,225	$11,869	$11,592	$11,167	$11,004	$35,213	$14,317	$13,239	$17,329	$19,425	$10,584	$47,188	$500	$10,087	$31,445	$188,023	$198,459
80.08	Start up	$11,959	$13,687	$11,776	$12,730	$11,220	$188,225	$11,869	$11,592	$11,167	$11,004	$35,213	$14,317	$13,239	$17,329	$19,425	$10,584	$47,188	$500	$10,087	$31,445	$188,023	$198,459
	Subtotal																					$4,512,552	$4,763,027
90	UNALLOCATED CONTINGENCY																						
	Construction Costs (SCC 10 - 50) (30%)																					$8,894,170	$9,210,264
	Bus fleet (20%)																					$3,900,000	$3,900,000
	Subtotal																					$12,794,170	$13,110,264
100	FINANCE CHARGES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0.00	$0
	Capital Costs for Stations	**$1,482,925**	**$1,697,213**	**$1,460,274**	**$1,578,495**	**$1,391,336**	**$23,339,925**	**$1,471,756**	**$1,437,408**	**$1,384,709**	**$1,414,539**	**$4,366,431**	**$1,775,258**	**$1,641,599**	**$2,148,827**	**$2,408,700**	**$1,312,379**	**$5,851,255**	**$62,000**	**$1,250,776**	**$3,899,230**	**$36,980,954**	**$38,601,172**
	Rounded for Technical Memorandums	**$1,480,000**	**$1,700,000**	**$1,460,000**	**$1,580,000**	**$1,390,000**	**$23,340,000**	**$1,470,000**	**$1,440,000**	**$1,380,000**	**$1,410,000**	**$4,370,000**	**$1,780,000**	**$1,640,000**	**$2,150,000**	**$2,410,000**	**$1,310,000**	**$5,850,000**	**$60,000**	**$1,250,000**	**$3,900,000**		
																		$1,462,500			$975,000		
																		Per Station			Per Station		
	Allocated Contingency (20% of Unallocated Contingency)																						
	Subtotal																					$902,510	$952,605
	Total Capital Costs for Alternatives																					**$67,356,464**	**$69,026,777**
			Station serves both I-394 and TH 55																				
			Station serves ONLY I-394																				
			Station ONLY serves TH 55																				

Appendix B: SCC Templates (BRT)

MAIN WORKSHEET-BUILD ALTERNATIVE (Rev.18, May 2016)

MnDOT — Today's Date **4/26/17**

TH 169 BRT Transitway - I-394 (Alternative 1) — Yr of Base Year $ 2017

Planning Phase — Yr of Revenue Ops 2028

	Quantity	Base Year Dollars w/o Contingency (X000)	Base Year Dollars Allocated Contingency (X000)	Base Year Dollars TOTAL (X000)	Base Year Dollars Unit Cost (X000)	Base Year Dollars Percentage of Construction Cost	Base Year Dollars Percentage of Total Project Cost	YOE Dollars Total (X000)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	**0.00**	1,776	0	**1,776**		**6%**	**3%**	**2,683**
10.01 Guideway: At-grade exclusive right-of-way	0.00	1,776		1,776				2,683
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)				0				0
10.03 Guideway: At-grade in mixed traffic				0				0
10.04 Guideway: Aerial structure				0				0
10.05 Guideway: Built-up fill				0				0
10.06 Guideway: Underground cut & cover				0				0
10.07 Guideway: Underground tunnel				0				0
10.08 Guideway: Retained cut or fill				0				0
10.09 Track: Direct fixation				0				0
10.10 Track: Embedded				0				0
10.11 Track: Ballasted				0				0
10.12 Track: Special (switches, turnouts)				0				0
10.13 Track: Vibration and noise dampening				0				0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	**10**	7,769	0	**7,769**	**$777**	**26%**	**12%**	**11,739**
20.01 At-grade station, stop, shelter, mall, terminal, platform	10	7,722		7,722	$772			11,668
20.02 Aerial station, stop, shelter, mall, terminal, platform		47		47				71
20.03 Underground station, stop, shelter, mall, terminal, platform				0				0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.				0				0
20.05 Joint development				0				0
20.06 Automobile parking multi-story structure				0				0
20.07 Elevators, escalators		0		0				0
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	0.00	9,973	0	**9,973**		**34%**	**15%**	**15,070**
30.01 Administration Building: Office, sales, storage, revenue counting				0				0
30.02 Light Maintenance Facility		9,973		9,973				15,070
30.03 Heavy Maintenance Facility				0				0
30.04 Storage or Maintenance of Way Building				0				0
30.05 Yard and Yard Track				0				0
40 SITEWORK & SPECIAL CONDITIONS	0.00	3,080	0	**3,080**		**10%**	**5%**	**4,654**
40.01 Demolition, Clearing, Earthwork		350		350				529
40.02 Site Utilities, Utility Relocation		750		750				1,133
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		126		126				190
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks				0				0
40.05 Site structures including retaining walls, sound walls		832		832				1,257
40.06 Pedestrian / bike access and accommodation, landscaping		1,019		1,019				1,540
40.07 Automobile, bus, van accessways including roads, parking lots		3		3				4
40.08 Temporary Facilities and other indirect costs during construction				0				0
50 SYSTEMS	0.00	7,050	0	**7,050**		**24%**	**10%**	**10,653**
50.01 Train control and signals				0				0
50.02 Traffic signals and crossing protection		1,500		1,500				2,267
50.03 Traction power supply: substations				0				0
50.04 Traction power distribution: catenary and third rail				0				0
50.05 Communications		3,000		3,000				4,533
50.06 Fare collection system and equipment		2,550		2,550				3,853
50.07 Central Control				0				0
Construction Subtotal (10 - 50)	0.00	29,647	0	**29,647**		**100%**	**44%**	**44,799**
60 ROW, LAND, EXISTING IMPROVEMENTS	0.00	0	0	**0**			**0%**	**0**
60.01 Purchase or lease of real estate				0				#DIV/0!
60.02 Relocation of existing households and businesses				0				#DIV/0!
70 VEHICLES (number)	**26**	19,500	0	**19,500**	**$750**		**29%**	**29,466**
70.01 Light Rail				0				0
70.02 Heavy Rail				0				0
70.03 Commuter Rail				0				0
70.04 Bus	26	19,500		19,500	$750			29,466
70.05 Other				0				0
70.06 Non-revenue vehicles				0				0
70.07 Spare parts				0				0
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)	0.00	4,513	903	**5,415**		**18%**	**8%**	**8,183**
80.01 Project Development		376	75	451				682
80.02 Engineering (not applicable to Small Starts)		1,692	338					
80.03 Project Management for Design and Construction		752	150	903				1,364
80.04 Construction Administration & Management		752	150	903				1,364
80.05 Professional Liability and other Non-Construction Insurance		376	75	451				682
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		188	38	226				341
80.07 Surveys, Testing, Investigation, Inspection		188	38	226				341
80.08 Start up		188	38	226				341
Subtotal (10 - 80)	0.00	53,660	903	**54,562**			**81%**	**82,447**
90 UNALLOCATED CONTINGENCY				**12,794**			**19%**	**19,333**
Subtotal (10 - 90)	0.00			**67,356**			**100%**	**101,780**
100 FINANCE CHARGES				**0**			**0%**	**0**
Total Project Cost (10 - 100)	0.00			**67,356**			**100%**	**101,780**
Allocated Contingency as % of Base Yr Dollars w/o Contingency				1.68%				
Unallocated Contingency as % of Base Yr Dollars w/o Contingency				23.84%				
Total Contingency as % of Base Yr Dollars w/o Contingency				25.53%				
Unallocated Contingency as % of Subtotal (10 - 80)				23.45%				

MAIN WORKSHEET-BUILD ALTERNATIVE

(Rev.18, May 2016)

MnDOT — Today's Date **4/26/17**

TH 169 BRT Transitway - TH 55 (Alternative 2) — Yr of Base Year $ 2017

Planning Phase — Yr of Revenue Ops 2028

	Quantity	Base Year Dollars w/o Contingency (X000)	Base Year Dollars Allocated Contingency (X000)	Base Year Dollars TOTAL (X000)	Base Year Dollars Unit Cost (X000)	Base Year Dollars Percentage of Construction Cost	Base Year Dollars Percentage of Total Project Cost	YOE Dollars Total (X000)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	**0.00**	1,828	0	**1,828**		**6%**	**3%**	**2,762**
10.01 Guideway: At-grade exclusive right-of-way	0.00	1,828		1,828				2,762
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)				0				0
10.03 Guideway: At-grade in mixed traffic				0				0
10.04 Guideway: Aerial structure				0				0
10.05 Guideway: Built-up fill				0				0
10.06 Guideway: Underground cut & cover				0				0
10.07 Guideway: Underground tunnel				0				0
10.08 Guideway: Retained cut or fill				0				0
10.09 Track: Direct fixation				0				0
10.10 Track: Embedded				0				0
10.11 Track: Ballasted				0				0
10.12 Track: Special (switches, turnouts)				0				0
10.13 Track: Vibration and noise dampening				0				0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	**10**	8,893	0	**8,893**	**$889**	**29%**	**13%**	**13,438**
20.01 At-grade station, stop, shelter, mall, terminal, platform	10	8,846		8,846	$885			13,368
20.02 Aerial station, stop, shelter, mall, terminal, platform		47		47				71
20.03 Underground station, stop, shelter, mall, terminal, platform				0				0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.				0				0
20.05 Joint development				0				0
20.06 Automobile parking multi-story structure				0				0
20.07 Elevators, escalators		0		0				0
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	0.00	9,973	0	**9,973**		**32%**	**14%**	**15,070**
30.01 Administration Building: Office, sales, storage, revenue counting				0				0
30.02 Light Maintenance Facility		9,973		9,973				15,070
30.03 Heavy Maintenance Facility				0				0
30.04 Storage or Maintenance of Way Building				0				0
30.05 Yard and Yard Track				0				0
40 SITEWORK & SPECIAL CONDITIONS	0.00	2,366	0	**2,366**		**8%**	**3%**	**3,576**
40.01 Demolition, Clearing, Earthwork		401		401				606
40.02 Site Utilities, Utility Relocation		850		850				1,284
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		114		114				172
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks				0				0
40.05 Site structures including retaining walls, sound walls		240		240				363
40.06 Pedestrian / bike access and accommodation, landscaping		760		760				1,148
40.07 Automobile, bus, van accessways including roads, parking lots		1		1				2
40.08 Temporary Facilities and other indirect costs during construction				0				0
50 SYSTEMS	0.00	7,640	0	**7,640**		**25%**	**11%**	**11,545**
50.01 Train control and signals				0				0
50.02 Traffic signals and crossing protection		1,350		1,350				2,040
50.03 Traction power supply: substations				0				0
50.04 Traction power distribution: catenary and third rail				0				0
50.05 Communications		3,400		3,400				5,138
50.06 Fare collection system and equipment		2,890		2,890				4,367
50.07 Central Control				0				0
Construction Subtotal (10 - 50)	0.00	30,701	0	**30,701**		**100%**	**44%**	**46,391**
60 ROW, LAND, EXISTING IMPROVEMENTS	0.00	0	0	**0**			**0%**	**0**
60.01 Purchase or lease of real estate				0				#DIV/0!
60.02 Relocation of existing households and businesses				0				#DIV/0!
70 VEHICLES (number)	**26**	19,500	0	**19,500**	**$750**		**28%**	**29,466**
70.01 Light Rail				0				0
70.02 Heavy Rail				0				0
70.03 Commuter Rail				0				0
70.04 Bus	26	19,500		19,500	$750			29,466
70.05 Other				0				0
70.06 Non-revenue vehicles				0				0
70.07 Spare parts				0				0
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)	0.00	4,763	953	**5,716**		**19%**	**8%**	**8,637**
80.01 Project Development		397	79	476				720
80.02 Engineering (not applicable to Small Starts)		1,786	357					
80.03 Project Management for Design and Construction		794	159	953				1,439
80.04 Construction Administration & Management		794	159	953				1,439
80.05 Professional Liability and other Non-Construction Insurance		397	79	476				720
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		198	40	238				360
80.07 Surveys, Testing, Investigation, Inspection		198	40	238				360
80.08 Start up		198	40	238				360
Subtotal (10 - 80)	0.00	54,964	953	**55,917**			**81%**	**84,494**
90 UNALLOCATED CONTINGENCY				**13,110**			**19%**	**19,811**
Subtotal (10 - 90)	0.00			**69,027**			**100%**	**104,304**
100 FINANCE CHARGES				**0**			**0%**	**0**
Total Project Cost (10 - 100)	0.00			**69,027**			**100%**	**104,304**
Allocated Contingency as % of Base Yr Dollars w/o Contingency				1.73%				
Unallocated Contingency as % of Base Yr Dollars w/o Contingency				23.85%				
Total Contingency as % of Base Yr Dollars w/o Contingency				25.59%				
Unallocated Contingency as % of Subtotal (10 - 80)				23.45%				

Appendix C: Annualized SCC Templates (BRT)

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ANNUALIZED COST-BUILD ALTERNATIVE (Current Year)

(Rev.18, May 2016)

MnDOT — Today's Date **4/26/17**

TH 169 BRT Transitway - TH 55 (Alternative 2) — Yr of Base Year $ 2017

Planning Phase — Yr of Revenue Ops 2028

	Quantity	Total Base Year Dollars (X000)	Cat. 80 Prof. Svc. spread proportionally over Cats. 10 - 50 (X000)	Spread Cat. 90 Unalloc. Cont. according to perceived risks (X000)	Revised Total Base Year Dollars (X000)	Federal Share of Base Year Dollars (based on 50 percent Federal funding share)	Years of Useful Life	Annualization Factor (based on 2% rate) [.02/1 - (1.02)^- no. yrs]	**Annualized Federal Share (X000)**
10 GUIDEWAY & TRACK ELEMENTS (route miles)	**0.00**	**1,828**	**340**	**548**	**2,717**	**1,358**			**30**
10.01 Guideway: At-grade exclusive right-of-way	0.00	1,828	340	548	2,717	1,358	125	0.0218	30
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)	0.00	0	0		0	0	30	0.0446	0
10.03 Guideway: At-grade in mixed traffic	0.00	0	0		0	0	20	0.0612	0
10.04 Guideway: Aerial structure	0.00	0	0		0	0	80	0.0252	0
10.05 Guideway: Built-up fill	0.00	0	0		0	0	80	0.0252	0
10.06 Guideway: Underground cut & cover	0.00	0	0		0	0	125	0.0218	0
10.07 Guideway: Underground tunnel	0.00	0	0		0	0	125	0.0218	0
10.08 Guideway: Retained cut or fill	0.00	0	0		0	0	125	0.0218	0
10.09 Track: Direct fixation		0	0		0	0	30	0.0446	0
10.10 Track: Embedded		0	0		0	0	20	0.0612	0
10.11 Track: Ballasted		0	0		0	0	35	0.0400	0
10.12 Track: Special (switches, turnouts)		0	0		0	0	30	0.0446	0
10.13 Track: Vibration and noise dampening		0	0		0	0	30	0.0446	0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	**10**	**8,893**	**1,656**	**2,654**	**13,203**	**6,601**			**176**
20.01 At-grade station, stop, shelter, mall, terminal, platform	10	8,846	1,647	2,654	13,147	6,574	70	0.0267	175
20.02 Aerial station, stop, shelter, mall, terminal, platform	0	47	9		56	28	70	0.0267	1
20.03 Underground station, stop, shelter, mall, terminal, platform	0	0	0		0	0	125	0.0218	0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	0	0	0		0	0	70	0.0267	0
20.05 Joint development		0	0		0	0	70	0.0267	0
20.06 Automobile parking multi-story structure		0	0		0	0	50	0.0318	0
20.07 Elevators, escalators		0	0		0	0	30	0.0446	0
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS		**9,973**	**1,857**	**2,992**	**14,822**	**7,411**			**236**
30.01 Administration Building: Office, sales, storage, revenue counting		0	0		0	0	50	0.0318	0
30.02 Light Maintenance Facility		9,973	1,857	2,992	14,822	7,411	50	0.0318	236
30.03 Heavy Maintenance Facility		0	0		0	0	50	0.0318	0
30.04 Storage or Maintenance of Way Building		0	0		0	0	50	0.0318	0
30.05 Yard and Yard Track		0	0		0	0	80	0.0252	0
40 SITEWORK & SPECIAL CONDITIONS		**2,366**	**441**	**710**	**3,517**	**1,758**			**61**
40.01 Demolition, Clearing, Earthwork		401	75	120	596	298	125	0.0218	7
40.02 Site Utilities, Utility Relocation		850	158	255	1,263	632	125	0.0218	14
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		114	21	34	169	85	125	0.0218	2
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks		0	0	0	0	0	125	0.0218	0
40.05 Site structures including retaining walls, sound walls		240	45	72	357	178	80	0.0252	4
40.06 Pedestrian / bike access and accommodation, landscaping		760	141	228	1,129	565	20	0.0612	35
40.07 Automobile, bus, van accessways including roads, parking lots		1	0	0	2	1	20	0.0612	0
40.08 Temporary Facilities and other indirect costs during construction		0	0	0	0	0	100	0.0232	0
50 SYSTEMS		**7,640**	**1,422**	**2,292**	**11,354**	**5,677**			**309**
50.01 Train control and signals		0	0	0	0	0	30	0.0446	0
50.02 Traffic signals and crossing protection		1,350	251	405	2,006	1,003	30	0.0446	45
50.03 Traction power supply: substations		0	0	0	0	0	50	0.0318	0
50.04 Traction power distribution: catenary and third rail		0	0	0	0	0	30	0.0446	0
50.05 Communications		3,400	633	1,020	5,053	2,526	20	0.0612	155
50.06 Fare collection system and equipment		2,890	538	867	4,295	2,148	25	0.0512	110
50.07 Central Control		0	0	0	0	0	30	0.0446	0
Construction Subtotal (10 - 50)		**30,701**	**5,716**	**9,196**	**45,613**	**22,806**			**812**
60 ROW, LAND, EXISTING IMPROVEMENTS		**0**		**0**	**0**	**0**			**0**
60.01 Purchase or lease of real estate		0			0	0	125	0.0218	0
60.02 Relocation of existing households and businesses		0			0	0	125	0.0218	0
70 VEHICLES (number)	**26**	**19,500**		**3,900**	**23,400**	**11,700**			**1,106**
70.01 Light Rail	0	0			0	0	25	0.0512	0
70.02 Heavy Rail	0	0			0	0	25	0.0512	0
70.03 Commuter Rail	0	0			0	0	25	0.0512	0
70.04 Bus	26	19,500		3,900	23,400	11,700	12	0.0946	1,106
70.05 Other	0	0			0	0	12	0.0946	0
70.06 Non-revenue vehicles	0	0			0	0	12	0.0946	0
70.07 Spare parts	0	0			0	0	12	0.0946	0
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)		**5,716**							
80.01 Project Development		476							
80.02 Engineering (not applicable to Small Starts)		0							
80.03 Project Management for Design and Construction		953							
80.04 Construction Administration & Management		953							
80.05 Professional Liability and other Non-Construction Insurance		476							
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		238							
80.07 Surveys, Testing, Investigation, Inspection		238							
80.08 Start up		238							
Subtotal (10 - 80)		**55,917**							
90 UNALLOCATED CONTINGENCY		**13,110**							
TOTAL		**69,027**	5,716	13,096	**69,013**	**34,506**			**1,918**

ANNUALIZED COST-BUILD ALTERNATIVE (Current Year)

(Rev.18, May 2016)

MnDOT — Today's Date **4/26/17**

TH 169 BRT Transitway - TH 55 (Alternative 2) — Yr of Base Year $ 2017

Planning Phase — Yr of Revenue Ops 2028

	Quantity	Total Base Year Dollars (X000)	Cat. 80 Prof. Svc. spread proportionally over Cats. 10 - 50 (X000)	Spread Cat. 90 Unalloc. Cont. according to perceived risks (X000)	Revised Total Base Year Dollars (X000)	Federal Share of Base Year Dollars (based on 50 percent Federal funding share)	Years of Useful Life	Annualization Factor (based on 2% rate) [.02/1 - (1.02)^- no. yrs]	**Annualized Federal Share (X000)**
10 GUIDEWAY & TRACK ELEMENTS (route miles)	**0.00**	**1,828**	**213**	**548**	**2,589**	**1,295**			**28**
10.01 Guideway: At-grade exclusive right-of-way	0.00	1,828	213	548	2,589	1,295	125	0.0218	28
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)	0.00	0	0		0	0	30	0.0446	0
10.03 Guideway: At-grade in mixed traffic	0.00	0	0		0	0	20	0.0612	0
10.04 Guideway: Aerial structure	0.00	0	0		0	0	80	0.0252	0
10.05 Guideway: Built-up fill	0.00	0	0		0	0	80	0.0252	0
10.06 Guideway: Underground cut & cover	0.00	0	0		0	0	125	0.0218	0
10.07 Guideway: Underground tunnel	0.00	0	0		0	0	125	0.0218	0
10.08 Guideway: Retained cut or fill	0.00	0	0		0	0	125	0.0218	0
10.09 Track: Direct fixation		0	0		0	0	30	0.0446	0
10.10 Track: Embedded		0	0		0	0	20	0.0612	0
10.11 Track: Ballasted		0	0		0	0	35	0.0400	0
10.12 Track: Special (switches, turnouts)		0	0		0	0	30	0.0446	0
10.13 Track: Vibration and noise dampening		0	0		0	0	30	0.0446	0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	**10**	**8,893**	**1,035**	**2,654**	**12,582**	**6,291**			**168**
20.01 At-grade station, stop, shelter, mall, terminal, platform	10	8,846	1,029	2,654	12,530	6,265	70	0.0267	167
20.02 Aerial station, stop, shelter, mall, terminal, platform	0	47	5		52	26	70	0.0267	1
20.03 Underground station, stop, shelter, mall, terminal, platform	0	0	0		0	0	125	0.0218	0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	0	0	0		0	0	70	0.0267	0
20.05 Joint development		0	0		0	0	70	0.0267	0
20.06 Automobile parking multi-story structure		0	0		0	0	50	0.0318	0
20.07 Elevators, escalators		0	0		0	0	30	0.0446	0
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS		**9,973**	**1,160**	**2,992**	**14,125**	**7,063**			**225**
30.01 Administration Building: Office, sales, storage, revenue counting		0	0		0	0	50	0.0318	0
30.02 Light Maintenance Facility		9,973	1,160	2,992	14,125	7,063	50	0.0318	225
30.03 Heavy Maintenance Facility		0	0		0	0	50	0.0318	0
30.04 Storage or Maintenance of Way Building		0	0		0	0	50	0.0318	0
30.05 Yard and Yard Track		0	0		0	0	80	0.0252	0
40 SITEWORK & SPECIAL CONDITIONS		**2,366**	**275**	**710**	**3,352**	**1,676**			**58**
40.01 Demolition, Clearing, Earthwork		401	47	120	568	284	125	0.0218	6
40.02 Site Utilities, Utility Relocation		850	99	255	1,204	602	125	0.0218	13
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		114	13	34	161	81	125	0.0218	2
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks		0	0	0	0	0	125	0.0218	0
40.05 Site structures including retaining walls, sound walls		240	28	72	340	170	80	0.0252	4
40.06 Pedestrian / bike access and accommodation, landscaping		760	88	228	1,076	538	20	0.0612	33
40.07 Automobile, bus, van accessways including roads, parking lots		1	0	0	2	1	20	0.0612	0
40.08 Temporary Facilities and other indirect costs during construction		0	0	0	0	0	100	0.0232	0
50 SYSTEMS		**7,640**	**889**	**2,292**	**10,821**	**5,410**			**295**
50.01 Train control and signals		0	0	0	0	0	30	0.0446	0
50.02 Traffic signals and crossing protection		1,350	157	405	1,912	956	30	0.0446	43
50.03 Traction power supply: substations		0	0	0	0	0	50	0.0318	0
50.04 Traction power distribution: catenary and third rail		0	0	0	0	0	30	0.0446	0
50.05 Communications		3,400	396	1,020	4,816	2,408	20	0.0612	147
50.06 Fare collection system and equipment		2,890	336	867	4,093	2,047	25	0.0512	105
50.07 Central Control		0	0	0	0	0	30	0.0446	0
Construction Subtotal (10 - 50)		**30,701**	**3,572**	**9,196**	**43,469**	**21,735**			**774**
60 ROW, LAND, EXISTING IMPROVEMENTS		**0**		**0**	**0**	**0**			**0**
60.01 Purchase or lease of real estate		0			0	0	125	0.0218	0
60.02 Relocation of existing households and businesses		0			0	0	125	0.0218	0
70 VEHICLES (number)	**26**	**19,500**		**3,900**	**23,400**	**11,700**			**1,106**
70.01 Light Rail	0	0			0	0	25	0.0512	0
70.02 Heavy Rail	0	0			0	0	25	0.0512	0
70.03 Commuter Rail	0	0			0	0	25	0.0512	0
70.04 Bus	26	19,500		3,900	23,400	11,700	12	0.0946	1,106
70.05 Other	0	0			0	0	12	0.0946	0
70.06 Non-revenue vehicles	0	0			0	0	12	0.0946	0
70.07 Spare parts	0	0			0	0	12	0.0946	0
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)		**3,572**							
80.01 Project Development		476							
80.02 Engineering (not applicable to Small Starts)		0							
80.03 Project Management for Design and Construction		953							
80.04 Construction Administration & Management		953							
80.05 Professional Liability and other Non-Construction Insurance		476							
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		238							
80.07 Surveys, Testing, Investigation, Inspection		238							
80.08 Start up		238							
Subtotal (10 - 80)		**53,773**							
90 UNALLOCATED CONTINGENCY		**13,110**							
TOTAL		**66,883**	3,572	13,096	**66,869**	**33,435**			**1,880**

Appendix D: Station Breakdown Unit Costs (BRT)

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Cost Estimate Marschall Rd Station

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	500	$ 25	$ 12,500	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	1,100	$ 15	$ 16,500	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 71,240**	
Paving						
40.06	Bituminous pavement	SQ FT	4,400	$ 4.24	$ 18,634	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	2,700	$ 5	$ 13,500	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	4	$ 3,000	$ 12,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	50	$ 85	$ 4,250	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	123	$ 1	$ 123	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	$ 17	$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 58,507**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	2	$ 50,000	$ 100,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 570,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	HNTB Historical costs
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	1,664	$ 15	$ 24,960	HNTB historical costs
				Subtotal	**$ 24,960**	
	Base Cost Construction Total				**$ 1,195,907**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 358,772	
	Profesisonal Services (SCC 80)	20%			$ 57,404	
				Subtotal	**$ 416,176**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 23,918	
80.02	Engineering	9%			$ 107,632	
80.03	Project Management for Design and Construction	4%			$ 47,836	
80.04	Construction Administration & Management	4%			$ 47,836	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 23,918	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 11,959	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 11,959	
80.08	Start up	1%			$ 11,959	
				Total:	**$ 287,018**	
	Total Project Costs (10-100)				**$ 1,899,101**	

Cost Estimate Canterbury Rd Station (Seagate Technology)

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	7,221	$ 22	$ 158,862	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	303	$ 25	$ 7,575	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	1,534	$ 15	$ 23,010	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 189,447**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	3,134	$ 5	$ 15,670	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	$ 3,000	$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	1,278	$ 1	$ 1,278	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	420	$ 17	$ 7,140	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 34,088**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	3	$ 50,000	$ 150,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 620,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	MnDOT; Modular Block Wall
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	3,599	$ 15	$ 53,985	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ 53,985**	
	Base Cost Construction Total				**$ 1,368,720**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 410,616	
	Profesisonal Services (SCC 80)	20%			$ 65,699	
				Subtotal	**$ 476,315**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 27,374	
80.02	Engineering	9%			$ 123,185	
80.03	Project Management for Design and Construction	4%			$ 54,749	
80.04	Construction Administration & Management	4%			$ 54,749	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 27,374	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 13,687	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 13,687	
80.08	Start up	1%			$ 13,687	
				Total:	**$ 328,493**	
	Total Project Costs (10-100)				**$ 2,173,527**	

Cost Estimate Southbridge

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	248	$ 25	$ 6,200	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	0	$ 15	$ -	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 48,440**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	1,600	$ 5	$ 8,000	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	$ 3,000	$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	$ 17	$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 18,000**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	1	$ 50,000	$ 50,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 520,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	300	$ 400	$ 120,000	MnDOT; Modular Block Wall
				Subtotal	**$ 120,000**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 1,177,640**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 353,292	
	Profesisonal Services (SCC 80)	20%			$ 56,527	
				Subtotal	**$ 409,819**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 23,553	
80.02	Engineering	9%			$ 105,988	
80.03	Project Management for Design and Construction	4%			$ 47,106	
80.04	Construction Administration & Management	4%			$ 47,106	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 23,553	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 11,776	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 11,776	
80.08	Start up	1%			$ 11,776	
				Total:	**$ 282,634**	
	Total Project Costs (10-100)				**$ 1,870,092**	

Cost Estimate Pioneer Trail

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	188	$ 25	$ 4,700	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	722	$ 15	$ 10,830	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 57,770**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	2,322	$ 5	$ 11,610	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	4	$ 3,000	$ 12,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	1,200	$ 17	$ 20,400	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 54,010**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	2	$ 50,000	$ 100,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 570,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	300	$ 400	$ 120,000	MnDOT; Modular Block Wall
				Subtotal	**$ 120,000**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 1,272,980**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 381,894	
	Profesisonal Services (SCC 80)	20%			$ 61,103	
				Subtotal	**$ 442,997**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 25,460	
80.02	Engineering	9%			$ 114,568	
80.03	Project Management for Design and Construction	4%			$ 50,919	
80.04	Construction Administration & Management	4%			$ 50,919	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 25,460	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 12,730	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 12,730	
80.08	Start up	1%			$ 12,730	
				Total:	**$ 305,515**	
	Total Project Costs (10-100)				**$ 2,021,492**	

Cost Estimate Washington/ Viking Dr

Offline Station — Sheet 7 in Concept Drawings

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	993	$ 25	$ 24,825	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	4,585	$ 15	$ 68,775	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 135,840**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	6,185	$ 5	$ 30,925	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	$ 3,000	$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	240	$ 17	$ 4,080	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 45,005**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	0	$ 50,000	$ -	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 470,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	MnDOT; Modular Block Wall
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 1,122,045**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 336,614	
	Profesisonal Services (SCC 80)	20%			$ 53,858	
				Subtotal	**$ 390,472**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 22,441	
80.02	Engineering	9%			$ 100,984	
80.03	Project Management for Design and Construction	4%			$ 44,882	
80.04	Construction Administration & Management	4%			$ 44,882	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 22,441	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 11,220	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 11,220	
80.08	Start up	1%			$ 11,220	
				Total:	**$ 269,291**	
	Total Project Costs (10-100)				**$ 1,781,807**	

Cost Estimate 78th St - Optional

Online Station - to replace Washington/Viking Dr station — Sheet 7A in Concept Drawings

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	0	$ 25	$ -	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	0	$ 15	$ -	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 42,240**	
Paving						
40.06	Bituminous pavement	SQ FT	325,941	$ 4.24	$ 1,380,368	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	0	$ 5	$ -	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	$ 3,000	$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	$ 17	$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 1,390,368**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	0	$ 400	$ -	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.02	Bridge Modifications (new bridge)	SQ FT	81,788	$ 170	$ 13,903,960	MnDOT LWD cost estimation
20.02	Bridge Modifications (bridge removal)	SQ FT	38,047	$ 16	$ 608,752	MnDOT LWD cost estimation
				Subtotal	**$ 14,869,912**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	0	$ 50,000	$ -	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 470,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	MnDOT; Modular Block Wall
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	2	$ 1,000,000	$ 2,000,000	HNTB historical costs
				Subtotal	**$ 2,000,000**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 18,822,520**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 5,646,756	
	Profesisonal Services (SCC 80)	20%			$ 903,481	
				Subtotal	**$ 6,550,237**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 376,450	
80.02	Engineering	9%			$ 1,694,027	
80.03	Project Management for Design and Construction	4%			$ 752,901	
80.04	Construction Administration & Management	4%			$ 752,901	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 376,450	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 188,225	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 188,225	
80.08	Start up	1%			$ 188,225	
				Total:	**$ 4,517,405**	
	Total Project Costs (10-100)				**$ 29,890,162**	

Cost Estimate Bren Rd

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	60	$ 25	$ 1,500	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	1,688	$ 15	$ 25,320	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 69,060**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	3,288	$ 5	$ 16,440	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	2	$ 3,000	$ 6,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	2,600	$ 17	$ 44,200	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 76,640**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	2	$ 50,000	$ 100,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 570,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	MnDOT; Modular Block Wall
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 1,186,900**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 356,070	
	Profesisonal Services (SCC 80)	20%			$ 56,971	
				Subtotal	**$ 413,041**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 23,738	
80.02	Engineering	9%			$ 106,821	
80.03	Project Management for Design and Construction	4%			$ 47,476	
80.04	Construction Administration & Management	4%			$ 47,476	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 23,738	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 11,869	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 11,869	
80.08	Start up	1%			$ 11,869	
				Total:	**$ 284,856**	
	Total Project Costs (10-100)				**$ 1,884,797**	

Cost Estimate Hopkins

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	0	$ 22	$ -	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	0	$ 25	$ -	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	0	$ 15	$ -	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ -**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	1,600	$ 5	$ 8,000	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	$ 3,000	$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	$ 17	$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 18,000**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	4	$ 50,000	$ 200,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 670,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	MnDOT; Modular Block Wall
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 1,159,200**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 347,760	
	Profesisonal Services (SCC 80)	20%			$ 55,642	
				Subtotal	**$ 403,402**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 23,184	
80.02	Engineering	9%			$ 104,328	
80.03	Project Management for Design and Construction	4%			$ 46,368	
80.04	Construction Administration & Management	4%			$ 46,368	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 23,184	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 11,592	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 11,592	
80.08	Start up	1%			$ 11,592	
				Total:	**$ 278,208**	
	Total Project Costs (10-100)				**$ 1,840,810**	

Cost Estimate Cedar Lake Rd - Offset Interchance (Base)

Online Station - on bridge Sheet 10 in Concepts

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	0	$ 22	$ -	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	0	$ 25	$ -	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	3,009	$ 15	$ 45,135	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 45,135**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	0	$ 5	$ -	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	$ 3,000	$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	2,200	$ 17	$ 37,400	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 47,400**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	0	$ 400	$ -	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.02	Bridge Modifications	CY	94	$ 500	$ 46,966	HNTB experience
				Subtotal	**$ 404,166**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	2	$ 50,000	$ 100,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 570,000**	
40.05						
40.04	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	MnDOT; Modular Block Wall
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 1,116,701**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 335,010	
	Profesisonal Services (SCC 80)	20%			$ 53,602	
				Subtotal	**$ 388,612**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 22,334	
80.02	Engineering	9%			$ 100,503	
80.03	Project Management for Design and Construction	4%			$ 44,668	
80.04	Construction Administration & Management	4%			$ 44,668	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 22,334	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 11,167	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 11,167	
80.08	Start up	1%			$ 11,167	
				Total:	**$ 268,008**	
	Total Project Costs (10-100)				**$ 1,773,321**	

Cost Estimate Cedar Lake Option A - Offset Single Point Interchange

Sheet 10A in Concepts

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	275	$ 25	$ 6,875	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	2,106	$ 15	$ 31,590	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 80,705**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	3,706	$ 5	$ 18,530	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	$ 3,000	$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	$ 17	$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 28,530**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	1	$ 50,000	$ 50,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 520,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	MnDOT; Modular Block Wall
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 1,100,435**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 330,131	
	Profesisonal Services (SCC 80)	20%			$ 52,821	
				Subtotal	**$ 382,951**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 22,009	
80.02	Engineering	9%			$ 99,039	
80.03	Project Management for Design and Construction	4%			$ 44,017	
80.04	Construction Administration & Management	4%			$ 44,017	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 22,009	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 11,004	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 11,004	
80.08	Start up	1%			$ 11,004	
				Total:	**$ 264,104**	
	Total Project Costs (10-100)				**$ 1,747,491**	

Cost Estimate Cedar Lake Option B - Online Station

Platforms under bridge - Jim Baker's "Base" Sheet 10B in Concepts

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	10,872	$ 25	$ 271,800	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	0	$ 15	$ -	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 314,040**	
Paving						
40.06	Bituminous pavement	SQ FT	58,577	$ 4	$ 248,075	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	1,600	$ 5	$ 8,000	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	$ 3,000	$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	$ 17	$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 266,075**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	0	$ 50,000	$ -	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 470,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	MnDOT; Modular Block Wall
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	2	$ 1,000,000	$ 2,000,000	HNTB historical costs
				Subtotal	**$ 2,000,000**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 3,521,315**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 1,056,395	
	Profesisonal Services (SCC 80)	20%			$ 169,023	
				Subtotal	**$ 1,225,418**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 70,426	
80.02	Engineering	9%			$ 316,918	
80.03	Project Management for Design and Construction	4%			$ 140,853	
80.04	Construction Administration & Management	4%			$ 140,853	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 70,426	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 35,213	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 35,213	
80.08	Start up	1%			$ 35,213	
				Total:	**$ 845,116**	
	Total Project Costs (10-100)				**$ 5,591,849**	

Cost Estimate Cedar Lake Option C - Service Rd

Sheet 10C in Concepts

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	320	$ 25	$ 8,000	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	11,111	$ 15	$ 166,665	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 216,905**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	12,711	$ 5	$ 63,555	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	$ 3,000	$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	$ 17	$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 73,555**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	4	$ 50,000	$ 200,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 670,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	MnDOT; Modular Block Wall
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 1,431,660**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 429,498	
	Profesisonal Services (SCC 80)	20%			$ 68,720	
				Subtotal	**$ 498,218**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 28,633	
80.02	Engineering	9%			$ 128,849	
80.03	Project Management for Design and Construction	4%			$ 57,266	
80.04	Construction Administration & Management	4%			$ 57,266	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 28,633	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 14,317	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 14,317	
80.08	Start up	1%			$ 14,317	
				Total:	**$ 343,598**	
	Total Project Costs (10-100)				**$ 2,273,476**	

Cost Estimate Betty Crocker Dr

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	246	$ 25	$ 6,150	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	5,559	$ 15	$ 83,385	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 131,775**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	7,159	$ 5	$ 35,795	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	$ 3,000	$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	300	$ 17	$ 5,100	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 50,895**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	4	$ 50,000	$ 200,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 670,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	MnDOT; Modular Block Wall
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 1,323,870**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 397,161	
	Profesisonal Services (SCC 80)	20%			$ 63,546	
				Subtotal	**$ 460,707**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 26,477	
80.02	Engineering	9%			$ 119,148	
80.03	Project Management for Design and Construction	4%			$ 52,955	
80.04	Construction Administration & Management	4%			$ 52,955	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 26,477	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 13,239	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 13,239	
80.08	Start up	1%			$ 13,239	
				Total:	**$ 317,729**	
	Total Project Costs (10-100)				**$ 2,102,306**	

Cost Estimate Lousiana

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	1,455	$ 25	$ 36,375	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	2,229	$ 15	$ 33,435	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 112,050**	
Paving						
40.06	Bituminous pavement	SQ FT	12,817	$ 4.24	$ 54,280	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	3,829	$ 5	$ 19,145	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	4	$ 3,000	$ 12,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	100	$ 85	$ 8,500	MnDOT
40.07	Parking lot striping	LF	100	$ 1	$ 100	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	400	$ 17	$ 6,800	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 110,825**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	4	$ 50,000	$ 200,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 670,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	660	$ 400	$ 264,000	MnDOT; Modular Block Wall
				Subtotal	**$ 264,000**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	6,990	$ 15	$ 104,850	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ 104,850**	
	Base Cost Construction Total				**$ 1,732,925**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 519,878	
	Profesisonal Services (SCC 80)	20%			$ 83,180	
				Subtotal	**$ 603,058**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 34,659	
80.02	Engineering	9%			$ 155,963	
80.03	Project Management for Design and Construction	4%			$ 69,317	
80.04	Construction Administration & Management	4%			$ 69,317	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 34,659	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 17,329	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 17,329	
80.08	Start up	1%			$ 17,329	
				Total:	**$ 415,902**	
	Total Project Costs (10-100)				**$ 2,751,886**	

Cost Estimate West End

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	1,300	$ 25	$ 32,500	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	7,000	$ 15	$ 105,000	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 179,740**	
Paving						
40.06	Bituminous pavement	SQ FT	20,687	$ 4.24	$ 87,610	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	8,600	$ 5	$ 43,000	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	4	$ 3,000	$ 12,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	100	$ 85	$ 8,500	MnDOT
40.07	Parking lot striping	LF	800	$ 1	$ 800	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	600	$ 17	$ 10,200	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	2	$ 200	$ 400	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 172,510**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	3	$ 50,000	$ 150,000	HNTB historical costs
50.02	Signal revisions	EACH	1	$ 50,000	$ 50,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 670,000**	
40.05						
40.04	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	820	$ 400	$ 328,000	MnDOT; Modular Block Wall
				Subtotal	**$ 328,000**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	8,070	$ 15	$ 121,050	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ 121,050**	
	Base Cost Construction Total				**$ 1,942,500**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 582,750	
	Profesisonal Services (SCC 80)	20%			$ 93,240	
				Subtotal	**$ 675,990**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 38,850	
80.02	Engineering	9%			$ 174,825	
80.03	Project Management for Design and Construction	4%			$ 77,700	
80.04	Construction Administration & Management	4%			$ 77,700	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 38,850	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 19,425	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 19,425	
80.08	Start up	1%			$ 19,425	
				Total:	**$ 466,200**	
	Total Project Costs (10-100)				**$ 3,084,690**	

Cost Estimate Hawthorne

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	960	$ 22	$ 21,120	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	0	$ 25	$ -	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	0	$ 15	$ -	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 21,120**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	800	$ 5	$ 4,000	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	1	$ 3,000	$ 3,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	50	$ 85	$ 4,250	MnDOT
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	400	$ 17	$ 6,800	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 28,050**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	80	$ 400	$ 32,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 389,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	2	$ 50,000	$ 100,000	HNTB historical costs
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 570,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	MnDOT; Modular Block Wall
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 1,058,370**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 317,511	
	Profesisonal Services (SCC 80)	20%			$ 50,802	
				Subtotal	**$ 368,313**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 21,167	
80.02	Engineering	9%			$ 95,253	
80.03	Project Management for Design and Construction	4%			$ 42,335	
80.04	Construction Administration & Management	4%			$ 42,335	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 21,167	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 10,584	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 10,584	
80.08	Start up	1%			$ 10,584	
				Total:	**$ 254,009**	
	Total Project Costs (10-100)				**$ 1,680,692**	

Cost Estimate TH 55

Winnetka Ave N; Douglass Dr; Theodore Wirth Parkway; Penn Ave N Station

	ITEMS	UNIT	QTY				TOTAL	UNIT COST	TOTAL COST	Sources
Concrete			**Winnetka**	**Douglas Dr**	**Theodore**	**Penn Ave**	**QTY**			
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1920	1,920	1920	1920	7680	$ 22	$ 168,960	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	330	100	120	80	630	$ 25	$ 15,750	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	4574	930	2139	1820	9463	$ 15	$ 141,945	MnDOT - 2016 Avg Bid Prices
								Subtotal	**$ 326,655**	
Paving										
40.06	Bituminous pavement	SQ FT	156	1,545	0	0	1701	$ 46.18	$ 7,204	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	LSUM	1	1	1	1	4	$ 10,000	$ 40,000	Allowance
40.01	Demolition / Removals	CY	6174	2530	3739	3420	15863	$ 5	$ 79,315	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	1	1	1	1	4	$ 3,000	$ 12,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	50	50	50	50	200	$ 85	$ 17,000	MnDOT
40.07	Parking lot striping	LF	0	0	0	0	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	1560	920	1240	1100	4820	$ 17	$ 81,940	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	0	0	0	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	0	0	0	0	$ 3	$ -	MnDOT
								Subtotal	**$ 237,459**	
Utilities										
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	1	1	1	4	$ 50,000	$ 200,000	HNTB historical costs Utility connection for Station
								Subtotal	**$ 200,000**	
Shelters										
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	160	160	160	640	$ 400	$ 256,000	Allowance
20.01	Bike Rack	EACH	2	2	2	2	8	$ 1,200	$ 9,600	Manufacturer
20.01	Benches	EACH	2	2	2	2	8	$ 1,200	$ 9,600	Manufacturer
20.01	Station shelters	EACH	2	2	2	2	8	$ 150,000	$ 1,200,000	Allowance
20.01	Station signage	EACH	1	1	1	1	4	$ 50,000	$ 200,000	Allowance
20.01	Trash Receptacles	EACH	2	2	2	2	8	$ 1,200	$ 9,600	Manufacturer
								Subtotal	**$ 1,684,800**	
Electrical and Communications										
20.01	PA System/Passenger Information Display	L SUM	1	1	1	1	4	$ 50,000	$ 200,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	1	1	1	4	$ 50,000	$ 200,000	HNTB historical costs
50.02	Transit signal priority	EACH	2	1	1	3	7	$ 50,000	$ 350,000	HNTB historical costs
50.05	CCTV System	L SUM	1	1	1	1	4	$ 100,000	$ 400,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	1	1	1	4	$ 100,000	$ 400,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	2	2	2	8	$ 10,000	$ 80,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	2	2	2	8	$ 75,000	$ 600,000	Metro Transit
								Subtotal	**$ 2,230,000**	
Retaining Walls										
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	0	0	0	0	$ 400	$ -	HNTB historical costs
								Subtotal	**$ -**	
Elevators										
20.07	Elevator Towers	EACH	0	0	0	0	0	$ 1,000,000	$ -	HNTB historical costs
								Subtotal	**$ -**	
Landscape/Aesthetics										
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	2656	0	0	0	2656	$ 15	$ 39,840	HNTB historical costs Seeding 4' beyond curb line
								Subtotal	**$ 39,840**	
	Base Cost Construction Total								**$ 4,718,754**	
90	Unallocated Contingency	Construction								
	Construction Costs (SCC 10 - 50)	30%							$ 1,415,626	
	Profesisonal Services (SCC 80)	20%							$ 226,500	
								Subtotal	**$ 1,642,126**	
100	Finance Charges									
									$ -	
	Professional Services									
80.01	Project Development	2%							$ 94,375	
80.02	Engineering	9%							$ 424,688	
80.03	Project Management for Design and Construction	4%							$ 188,750	
80.04	Construction Administration & Management	4%							$ 188,750	
80.05	Professional Liability and other Non-Construction Insurance	2%							$ 94,375	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%							$ 47,188	
80.07	Surveys, Testing, Investigation, Inspection	1%							$ 47,188	
80.08	Start up	1%							$ 47,188	
								Total:	**$ 1,132,501**	
	Total Project Costs (10-100)								**$ 7,493,381**	

Cost Estimate 7th St

Assume use of C-Line stations

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	0	$ 22	$ -	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	0	$ 25	$ -	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	0	$ 15	$ -	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ -**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	0	$ 10,000	$ -	Allowance
40.01	Demolition / Removals	CY	0	$ 5	$ -	HNTB historical unit cost
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	$ 3,000	$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	$ 85	$ -	MnDOT
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	$ 17	$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ -**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	0	$ 50,000	$ -	HNTB historical costs Utility connection for Station
				Subtotal	**$ -**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	0	$ 400	$ -	Allowance
20.01	Bike Rack	EACH	0	$ 1,200	$ -	Manufacturer
20.01	Benches	EACH	0	$ 1,200	$ -	Manufacturer
20.01	Station shelter	EACH	0	$ 150,000	$ -	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	0	$ 1,200	$ -	Manufacturer
				Subtotal	**$ 50,000**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	0	$ 50,000	$ -	HNTB historical costs
20.01	Site Lighting	L SUM	0	$ 50,000	$ -	HNTB historical costs
50.02	Transit signal priority	EACH	0	$ 50,000	$ -	HNTB historical costs; Assume it has it for C-Line
50.05	CCTV System	L SUM	0	$ 100,000	$ -	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	0	$ 100,000	$ -	HNTB historical costs
50.06	Smart Card Validators	EACH	0	$ 10,000	$ -	Metro Transit
50.06	Ticketing Vending Machines	EACH	0	$ 75,000	$ -	Metro Transit
				Subtotal	**$ -**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	MnDOT Modular Block Wall
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 50,000**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 15,000	
	Profesisonal Services (SCC 80)	20%			$ 2,400	
				Subtotal	**$ 17,400**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 1,000	
80.02	Engineering	9%			$ 4,500	
80.03	Project Management for Design and Construction	4%			$ 2,000	
80.04	Construction Administration & Management	4%			$ 2,000	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 1,000	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 500	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 500	
80.08	Start up	1%			$ 500	
				Total:	**$ 12,000**	
	Total Project Costs (10-100)				**$ 79,400**	

Cost Estimate 7th St Transit Center

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	$ 22	$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	0	$ 25	$ -	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	0	$ 15	$ -	MnDOT - 2016 Avg Bid Prices
				Subtotal	**$ 42,240**	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	L SUM	1	$ 10,000	$ 10,000	Allowance
40.01	Demolition / Removals	CY	1,600	$ 5	$ 8,000	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	1	$ 3,000	$ 3,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	50	$ 85	$ 4,250	MnDOT
40.07	Parking lot striping	LF	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	$ 17	$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	$ 3	$ -	MnDOT
				Subtotal	**$ 25,250**	
Utilities						
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs Utility connection for Station
				Subtotal	**$ 50,000**	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	$ 400	$ 64,000	Allowance
20.01	Bike Rack	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Benches	EACH	2	$ 1,200	$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	$ 150,000	$ 300,000	Allowance
20.01	Station signage	EACH	1	$ 50,000	$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	$ 1,200	$ 2,400	Manufacturer
				Subtotal	**$ 421,200**	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	$ 50,000	$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	0	$ 50,000	$ -	HNTB historical costs; Assume it has it for other transit
50.05	CCTV System	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	$ 100,000	$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	$ 10,000	$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	$ 75,000	$ 150,000	Metro Transit
				Subtotal	**$ 470,000**	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	$ 400	$ -	HNTB historical costs
				Subtotal	**$ -**	
Elevators						
20.07	Elevator Towers	EACH	0	$ 1,000,000	$ -	HNTB historical costs
				Subtotal	**$ -**	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
				Subtotal	**$ -**	
	Base Cost Construction Total				**$ 1,008,690**	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			$ 302,607	
	Profesisonal Services (SCC 80)	20%			$ 48,417	
				Subtotal	**$ 351,024**	
100	Finance Charges					
					$ -	
	Professional Services					
80.01	Project Development	2%			$ 20,174	
80.02	Engineering	9%			$ 90,782	
80.03	Project Management for Design and Construction	4%			$ 40,348	
80.04	Construction Administration & Management	4%			$ 40,348	
80.05	Professional Liability and other Non-Construction Insurance	2%			$ 20,174	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			$ 10,087	
80.07	Surveys, Testing, Investigation, Inspection	1%			$ 10,087	
80.08	Start up	1%			$ 10,087	
				Total:	**$ 242,086**	
	Total Project Costs (10-100)				**$ 1,601,800**	

Cost Estimate Downtown

Hennepin Ave; Nicollet Mall; 3rd Ave

	ITEMS	UNIT	QTY			TOTAL	UNIT COST	TOTAL COST	Sources
Concrete			**Hennepin Ave**	**Nicollet Mall**	**3rd Ave**	**QTY**			
10.01	Bus loading unloading areas (11" concrete)	SQ FT	3840	3840	3840	11520	$ 22	$ 253,440	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	0	0	0	0	$ 25	$ -	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	0	0	0	0	$ 15	$ -	MnDOT - 2016 Avg Bid Prices
							Subtotal	**$ 253,440**	
Paving									
40.06	Bituminous pavement	SQ FT	0	0	0	0	#DIV/0!	$ -	HNTB historical costs Volume = 7" $60/TON --> use 145#/CF 10" $30/CY Base 10" $25/ CY Select
40.01	Site Grading	LSUM	0	0	0	0	$ 10,000	$ -	Allowance
40.01	Demolition / Removals	CY	1600	1600	1600	4800	$ 5	$ 24,000	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	2	2	2	6	$ 3,000	$ 18,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	100	100	100	300	$ 85	$ 25,500	MnDOT
40.07	Parking lot striping	LF	0	0	0	0	$ 1	$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	0	0	0	$ 17	$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	0	0	0	$ 200	$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	0	0	0	$ 3	$ -	MnDOT
							Subtotal	**$ 67,500**	
Utilities									
40.02	Utility Relocation *(Fiber, Elec, etc.)*	L SUM	1	1	1	3	$ 50,000	$ 150,000	HNTB historical costs Utility connection for Station
							Subtotal	**$ 150,000**	
Shelters									
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	160	160	480	$ 400	$ 192,000	Allowance
20.01	Bike Rack	EACH	2	2	2	6	$ 1,200	$ 7,200	Manufacturer
20.01	Benches	EACH	2	2	2	6	$ 1,200	$ 7,200	Manufacturer
20.01	Station shelter	EACH	2	2	2	6	$ 150,000	$ 900,000	Allowance
20.01	Station signage	EACH	1	1	1	3	$ 50,000	$ 150,000	Allowance
20.01	Trash Receptacles	EACH	2	2	2	6	$ 1,200	$ 7,200	Manufacturer
							Subtotal	**$ 1,263,600**	
Electrical and Communications									
20.01	PA System/Passenger Information Display	L SUM	1	1	1	3	$ 50,000	$ 150,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	1	1	3	$ 50,000	$ 150,000	HNTB historical costs
50.02	Transit signal priority	EACH	0	0	0	0	$ 50,000	$ -	HNTB historical costs Assume it has it for other transit
50.05	CCTV System	L SUM	1	1	1	3	$ 100,000	$ 300,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	1	1	3	$ 100,000	$ 300,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	2	2	6	$ 10,000	$ 60,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	2	2	6	$ 75,000	$ 450,000	Metro Transit
							Subtotal	**$ 1,410,000**	
Retaining Walls									
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	0	0	0	$ 400	$ -	HNTB historical costs
							Subtotal	**$ -**	
Elevators									
20.07	Elevator Towers	EACH	0	0	0	0	$ 1,000,000	$ -	HNTB historical costs
							Subtotal	**$ -**	
Landscape/Aesthetics									
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	0	0	0	$ 15	$ -	HNTB historical costs Seeding 4' beyond curb line
							Subtotal	**$ -**	
	Base Cost Construction Total							**$ 3,144,540**	
90	Unallocated Contingency	Construction							
	Construction Costs (SCC 10 - 50)	30%						$ 943,362	
	Profesisonal Services (SCC 80)	20%						$ 150,938	
							Subtotal	**$ 1,094,300**	
100	Finance Charges								
								$ -	
	Professional Services								
80.01	Project Development	2%						$ 62,891	
80.02	Engineering	9%						$ 283,009	
80.03	Project Management for Design and Construction	4%						$ 125,782	
80.04	Construction Administration & Management	4%						$ 125,782	
80.05	Professional Liability and other Non-Construction Insurance	2%						$ 62,891	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%						$ 31,445	
80.07	Surveys, Testing, Investigation, Inspection	1%						$ 31,445	
80.08	Start up	1%						$ 31,445	
							Total:	**$ 754,690**	
	Total Project Costs (10-100)							**$ 4,993,530**	

Appendix E: Capital Costs Summary (MnPASS)

TH 169 MnPass - Marschall Rd - TH 55 - Draft Cost Estimate

				MnPass to TH 55									MnPass to TH 494		MnPass to TH 55		Notes
													Low Build	High Build	Low Build	High Build	
				Construction Cost (2017 $)									1, 2b	1a, 2b	8c	1a, 2a, 6a, 8a, 9d	
Segment 1	Marschall Rd	to	S of I-494	$110,200,000		$110,200,000	$110,200,000	$110,200,000	$110,200,000	$110,200,000	$110,200,000	$110,200,000	$110,200,000		$110,200,000		Existing Bloomington Ferry Bridge
Segment 1a	Marschall Rd	to	S of I-494		$130,100,000									$130,100,000		$130,100,000	Expanded Bloomington Ferry Bridge
Segment 2	S of I-494	to	N I-494	$20,200,000	$20,200,000		$20,200,000	$20,200,000	$20,200,000	$20,200,000	$20,200,000	$20,200,000			$20,200,000		
Segment 2a	S of I-494	to	N I-494			$87,200,000										$87,200,000	Online Station
Segment 2b	S of I-494	to	N I-494										$5,600,000	$5,600,000			
Segment 3	N I-494	to	S of TH 62 Interchange	$15,300,000	$15,300,000	$15,300,000	$15,300,000	$15,300,000	$15,300,000	$15,300,000	$15,300,000	$15,300,000			$15,300,000	$15,300,000	
Segment 4	S of TH 62 Interchange	to	N of TH 62 Interchange	$29,900,000	$29,900,000	$29,900,000	$29,900,000	$29,900,000	$29,900,000	$29,900,000	$29,900,000	$29,900,000			$29,900,000	$29,900,000	
Segment 5	N of TH 62 Interchange	to	N of Interlachen Blvd	$5,800,000	$5,800,000	$5,800,000	$5,800,000	$5,800,000	$5,800,000	$5,800,000	$5,800,000	$5,800,000			$5,800,000	$5,800,000	
Segment 6	N of Interlachen Blvd	to	S of Bridge at 2nd St	$21,100,000	$21,100,000	$21,100,000	$21,100,000		$21,100,000	$21,100,000	$21,100,000	$21,100,000			$21,100,000		SB Aux and widened Excelsior Bridge
Segment 6a	N of Interlachen Blvd	to	S of Bridge at 2nd St					$42,100,000								$42,100,000	NB and SB Aux Lanes and Full Excelsior Bridge Reconstruct
Segment 7	S of Bridge at 2nd St	to	S of Bridge at Minnetonka Blvd	$25,800,000	$25,800,000	$25,800,000	$25,800,000	$25,800,000	$25,800,000	$25,800,000	$25,800,000	$25,800,000			$25,800,000	$25,800,000	
Segment 8	S of Bridge at Minnetonka Blvd	to	W 16th St	$46,600,000	$46,600,000	$46,600,000	$46,600,000	$46,600,000				$46,600,000					Offset Diamond
Segment 8a	S of Bridge at Minnetonka Blvd	to	W 16th St						$51,600,000							$51,600,000	Offset Single Point
Segment 8b	S of Bridge at Minnetonka Blvd	to	W 16th St							$48,000,000							Offset Diamond with Online Station
Segment 8c	S of Bridge at Minnetonka Blvd	to	W 16th St								$41,700,000				$41,700,000		Split Diamond
Segment 9	W 16th St	to	TH 55	$58,900,000	$58,900,000	$58,900,000	$58,900,000	$58,900,000	$58,900,000	$58,900,000	$58,900,000				$58,900,000		Low Build
Segment 9d	W 16th St	to	TH 55									$203,400,000				$203,400,000	High Build - Direct TH 394 MnPass Connection
Total for MnPass				$333,800,000	$353,700,000	$400,800,000	$333,800,000	$354,800,000	$338,800,000	$335,200,000	$328,900,000	$478,300,000	$115,800,000	$135,700,000	$328,900,000	$591,200,000	
Rehab				$274,700,000	$274,700,000	$274,700,000	$274,700,000	$274,700,000	$274,700,000	$274,700,000	$274,700,000	$274,700,000	$179,000,000	$179,000,000	$274,000,000	$274,000,000	Rehab includes pavement overlay and bridge redecks. Includes redeck of Bloomington Ferry Bridge
Total with Rehab				$608,500,000	$628,400,000	$675,500,000	$608,500,000	$629,500,000	$613,500,000	$609,900,000	$603,600,000	$753,000,000	$294,800,000	$314,700,000	$602,900,000	$865,200,000	

Appendix F: Capital Costs per Segment (MnPASS)

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LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			**SP**		**DISTRICT**	**METRO**
NAME:	**Pamela Fincher**		**TH**	**169**	**LENGTH**	**9.9**
Estimate's Completion Date:	03/14/17		**MSD #**		**ID #**	
Project Location:			**LETTING YEAR:**			
Marschall Rd	**to**	**S of I-494**				
Project Description:						
MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)						

PROJECT ROADWAY COST CALCULATIONS — **IN INCHES**

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		1,227,177	10.0	193.68	$90,000	$17,431,200
New Shoulder:		1,656,909	8.0	209.20	$90,000	$18,828,000
Exist Mainline:		2,417,417	0.0	0.00	$90,000	$0
Exist Shoulder:		215,810	0.0	0.00	$90,000	$0
		5,517,313		**402.88**		**$36,259,200**

PROJECT BRIDGE COST CALCULATIONS

LOCATION		BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Marschall Rd		70536	70014		0	0	$250	$0	
CSAH 16	Eagle Creek Blvd	70037	70038		21,287	9,191	$250	$2,297,750	
Cantebury Rd		70039	70040		17,854	7,879	$250	$1,969,750	
Box Culvert		97445			3,649	3,500	$250	$875,000	
Box Culvert		97278			3,649	3,500	$250	$875,000	
Hwy 13	Southbridge Ramps	70525	70526		39,618	21,243	$250	$5,310,750	
CSAH 21		70527	70528		20,191	7,239	$250	$1,809,750	
Stage Coach Rd		70523	70524		24,782	7,283	$250	$1,820,750	
Hwy 101 Off Ramp		70521	70522		10,452	2,820	$250	$705,000	Segment 1
Hwy 101		70519	70520		27,999	3,050	$250	$762,500	
Minnesota River		27624A	27624B		786,851	5,977	$250	$1,494,250	
CSAH 1 (Old Shakopee Rd)		27693	27694		15,984	7,414	$250	$1,853,500	
Pioneer Trail		27294			0	0	$250	$0	
Anderson Lakes Parkway		27295			0	0	$250	$0	
Anderson Lakes		27A15	27A16		67,240	17,918	$250	$4,479,500	
Wetland		27A17	27A18		51,855	9,657	$250	$2,414,250	
		http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$26,667,750**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS			% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction			**20%**	$36,259,200	$43,511,040
BRIDGE COST	New bridge width, $250 / SQFT			**20%**	$26,667,750	$32,001,300
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins		$100,000	**20%**	$0	$0
ROADWAY LIGHTING COST	$480,000/ mile	9.9	$300,000	**20%**	$2,970,000	$3,564,000
INTERCHANGE LIGHTING COST	$80,000/interchange		$80,000	**20%**	$0	$0
NOISE WALL COST			$22	**20%**	$0	$0
RETAINING WALL COST			$100	**20%**	$0	$0
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)	9.9	$300,000	**20%**	$2,970,000	$3,564,000
OVERHEAD SIGNS		2	$50,000	**20%**	$100,000	$120,000
SIGNALS			$200,000	**20%**	$0	$0
MEDIAN BARRIER	$75/LIN FT	63954	$75	**20%**	$4,796,550	$5,755,860
NEED MORE LINES? ADD ADDITIONAL ROWS HERE(HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)					$0	$0
						$88,516,200
				ESTIMATED CONSTRUCTION COST (MnDOT)	**$73,763,500**	**$88,516,200**

PVMT. $ / SQ FT	$6.57
PVMT. $ / SQ FT (RISK)	$7.89
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$629,500
	$ / LANE MILE	$629,500
TOTAL PROJECT	PROJ. $ / MILE	$1,536,740
	$ / LANE MILE	$1,536,740

TOTAL PROJECT MILES	58
TOTAL PROJECT LANE MILES	58

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$10,621,944**
Construction 8% of Construction Cost	**$7,081,296**
Engineering Total 20% of Construction	**$17,703,240**

SUB-TOTAL (CONSTRUCTION + RISK) >>>			**$88,516,200**
OVERALL PROJECT RISK	**20.00%**	**PROJECT RISK DOLLARS**	$14,752,700
RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$10,621,944.00**	$11,896,577
RAILROAD AGREEMENT COST	**0.5%**	**$442,581.00**	$444,794
MAJOR UTILITY RELOCATION COST	**5.0%**	**$4,425,810.00**	$4,647,101
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$4,425,810.00**	$4,647,101
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$885,162.00**	$894,014

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$109,317,507**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	**$110,151,772**
CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>>	**$117,233,068**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME:	**Pamela Fincher**		
Estimate's Completion Date:	03/14/17		
Project Location:			
Marschall Rd	**to**	**S of I-494**	
Project Description:			

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**9.9**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS

IN INCHES

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		1,227,177	10.0	193.68	$90,000	$17,431,200
New Shoulder:		1,656,909	8.0	209.20	$90,000	$18,828,000
Exist Mainline:		2,417,417	0.0	0.00	$90,000	$0
Exist Shoulder:		215,810	0.0	0.00	$90,000	$0
		5,517,313		**402.88**		**$36,259,200**

PROJECT BRIDGE COST CALCULATIONS

LOCATION		BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)	BR REMOVAL SQ FT	EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST
Marschall Rd		70536	70014		0	0	$250	$0
CSAH 16	Eagle Creek Blvd	70037	70038		21,287	9,191	$250	$2,297,750
Canterbury Rd		70039	70040		17,854	7,879	$250	$1,969,750
Box Culvert		97445			3,649	3,649	$250	$912,125
Box Culvert		97278			3,649	3,649	$250	$912,125
Hwy 13	Southbridge Ramps	70525	70526		39,618	21,243	$250	$5,310,750
CSAH 21		70527	70528		20,191	7,240	$250	$1,810,000
Stage Coach Rd		70523	70524		24,782	7,283	$250	$1,820,750
Hwy 101 Off Ramp		70521	70522		10,452	2,820	$250	$705,000
Hwy 101		70519	70520		27,999	3,050	$250	$762,500
Minnesota River		27624A	27624B		786,851	92,518	$160	$14,802,880
CSAH 1 (Old Shakopee Rd)		27693	27694		15,984	7,414	$250	$1,853,500
Pioneer Trail		27294			0	0	$250	$0
Anderson Lakes Parkway		27295			0	0	$250	$0
Anderson Lakes		27A15	27A16		67,240	17,918	$250	$4,479,500
Wetland		27A17	27A18		51,855	9,657	$250	$2,414,250

Segment 1

http://dotapp9.dot.state.mn.us/bridgeinfo3/ **BRIDGE COST TOTALS** **$40,050,880**

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS			% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction			**20%**	$36,259,200	$43,511,040
BRIDGE COST				**20%**	$40,050,880	$48,061,056
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins		$100,000	**20%**	$0	$0
ROADWAY LIGHTING COST	$480,000/ mile	9.9	$300,000	**20%**	$2,970,000	$3,564,000
INTERCHANGE LIGHTING COST	$80,000/interchange		$80,000	**20%**	$0	$0
NOISE WALL COST			$22	**20%**	$0	$0
RETAINING WALL COST			$100	**20%**	$0	$0
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)	9.9	$300,000	**20%**	$2,970,000	$3,564,000
OVERHEAD SIGNS		2	$50,000	**20%**	$100,000	$120,000
SIGNALS			$200,000	**20%**	$0	$0
MEDIAN BARRIER	$75/LIN FT	63954	$75	**20%**	$4,796,550	$5,755,860
NEED MORE LINES? ADD ADDITIONAL ROWS HERE	(HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)				$0	$0
						$104,575,956
				ESTIMATED CONSTRUCTION COST (MnDOT)	**$87,146,630**	**$104,575,956**

PVMT. $ / SQ FT	$6.57
PVMT. $ / SQ FT (RISK)	$7.89
LWD PORTION COST	**OTHER** COSTS

SUB-TOTAL (CONSTRUCTION + RISK) >>> **$104,575,956**

OVERALL PROJECT RISK 20.00% **PROJECT RISK DOLLARS** $17,429,326

ROADWAY ONLY	PVMT. $ / MILE	$629,500
	$ / LANE MILE	$629,500
TOTAL PROJECT	PROJ. $ / MILE	$1,815,555
	$ / LANE MILE	$1,815,555

RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$12,549,114.72**	$14,055,008
RAILROAD AGREEMENT COST	**0.5%**	**$522,879.78**	$525,494
MAJOR UTILITY RELOCATION COST	**5.0%**	**$5,228,797.80**	$5,490,238
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$5,228,797.80**	$5,490,238
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$1,045,759.56**	$1,056,217

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL PROJECT MILES	58	
TOTAL PROJECT LANE MILES	58	

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$12,549,115**
Construction 8% of Construction Cost	**$8,366,076**
Engineering Total 20% of Construction	**$20,915,191**

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$129,151,306**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>> **$130,136,934**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>> **$138,503,011**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME:	**Pamela Fincher**		
Estimate's Completion Date:	03/14/17		
Project Location:			
S of I-494	**to**	**N I-494**	
Project Description:			

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1.05**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS — **IN INCHES**

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		281,697	10.0	44.45	$170,000	$7,556,500
New Shoulder:		148,635	8.0	18.76	$170,000	$3,189,200
Exist Mainline:		319,827	0.0	0.00	$170,000	$0
Exist Shoulder:		23,246	0.0	0.00	$170,000	$0
		773,405		**63.21**		**$10,745,700**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Marth Rd	27R26	27R25		9,107	3,561	$250	$890,250	
I-494	27V04	27V03		27,009	6,339	$250	$1,584,750	Segment 2
Washington Road Overpass -	27R28	27R27		11,038	1,354	$250	$338,500	
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$1,923,250**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS			% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction			**20%**	$10,745,700	$12,894,840
BRIDGE COST				**20%**	$1,923,250	$2,307,900
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	1	$100,000	**20%**	$100,000	$120,000
ROADWAY LIGHTING COST	$480,000/ mile	1.05	$300,000	**20%**	$315,000	$378,000
INTERCHANGE LIGHTING COST	$80,000/interchange	1	$80,000	**20%**	$80,000	$96,000
NOISE WALL COST			$22	**20%**	$0	$0
RETAINING WALL COST			$100	**20%**	$0	$0
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)	1.05	$300,000	**20%**	$315,000	$378,000
OVERHEAD SIGNS		2	$50,000	**20%**	$100,000	$120,000
SIGNALS			$200,000	**20%**	$0	$0
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)					$0	$0
						$16,294,740
			ESTIMATED CONSTRUCTION COST (MnDOT)		**$13,578,950**	**$16,294,740**

PVMT. $ / SQ FT	$13.89
PVMT. $ / SQ FT (RISK)	$16.67
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$1,279,250
	$ / LANE MILE	$1,279,250
TOTAL PROJECT	PROJ. $ / MILE	$1,939,850
	$ / LANE MILE	$1,939,850

TOTAL PROJECT MILES	8
TOTAL PROJECT LANE MILES	8

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$1,955,369**
Construction 8% of Construction Cost	**$1,303,579**
Engineering Total 20% of Construction	**$3,258,948**

SUB-TOTAL (CONSTRUCTION + RISK) >>> **$16,294,740**

OVERALL PROJECT RISK 20.00% **PROJECT RISK DOLLARS** $2,715,790

RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$1,955,368.80**	$2,190,013
RAILROAD AGREEMENT COST		**$0.00**	$0
MAJOR UTILITY RELOCATION COST	**5.0%**	**$814,737.00**	$855,474
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$814,737.00**	$855,474
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$162,947.40**	$164,577

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$20,042,530**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>> **$20,195,701**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>> **$21,499,280**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME:	**Pamela Fincher**		
Estimate's Completion Date:	03/14/17		
Project Location:			
S of I-494	**to**	**N I-494**	
Project Description:			

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1.05**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS

IN INCHES

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		281,697	10.0	44.45	$170,000	$7,556,500
New Shoulder:		148,635	8.0	18.76	$170,000	$3,189,200
Exist Mainline:		0	0.0	0.00	$170,000	$0
Exist Shoulder:		0	0.0	0.00	$170,000	$0
		430,332		**63.21**		**$10,745,700**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Marth Rd	27R26	27R25		9,107	3,561	$250	$890,250	
I-494	27V04	27V03		27,009	39,381	$170	$6,694,770	Segment 2
Washington Road Overpass - Online Station	27R28	27R27		11,038	50,100	$400	$20,040,000	
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$26,734,770**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS			% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction			**20%**	$10,745,700	$12,894,840
BRIDGE COST				**20%**	$26,734,770	$32,081,724
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2	$100,000	**20%**	$200,000	$240,000
ROADWAY LIGHTING COST	$480,000/ mile	1.05	$300,000	**20%**	$315,000	$378,000
INTERCHANGE LIGHTING COST	$80,000/interchange	1	$80,000	**20%**	$80,000	$96,000
NOISE WALL COST			$22	**20%**	$0	$0
RETAINING WALL COST			$100	**20%**	$0	$0
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)	1	$300,000	**20%**	$300,000	$360,000
OVERHEAD SIGNS		5	$50,000	**20%**	$250,000	$300,000
SIGNALS			$200,000	**20%**	$0	$0
Online Station		1	$20,000,000	**20%**	$20,000,000	$24,000,000
NEED MORE LINES? ADD ADDITIONAL ROWS HERE	HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)				$0	$0
						$70,350,564
			ESTIMATED CONSTRUCTION COST (MnDOT)		**$58,625,470**	**$70,350,564**

PVMT. $ / SQ FT	$24.97
PVMT. $ / SQ FT (RISK)	$29.96
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	1279250
	$ / LANE MILE	$1,279,250
TOTAL PROJECT	PROJ. $ / MILE	$8,375,067
	$ / LANE MILE	$8,375,067

TOTAL PROJECT MILES	8
TOTAL PROJECT LANE MILES	8

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$8,442,068**
Construction 8% of Construction Cost	**$5,628,045**
Engineering Total 20% of Construction	**$14,070,113**

SUB-TOTAL (CONSTRUCTION + RISK) >>>			**$70,350,564**
OVERALL PROJECT RISK	**20.00%**	**PROJECT RISK DOLLARS**	$11,725,094
RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$8,442,067.68**	$9,455,116
RAILROAD AGREEMENT COST		**$0.00**	$0
MAJOR UTILITY RELOCATION COST	**5.0%**	**$3,517,528.20**	$3,693,405
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$3,517,528.20**	$3,693,405
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$703,505.64**	$710,541

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$86,531,194**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	**$87,192,489**
CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>>	**$92,820,534**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME:	**Pamela Fincher**		
Estimate's Completion Date:	03/14/17		
Project Location:			
S of I-494	**to**	**N I-494**	
Project Description:			

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1.05**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS

IN INCHES

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		53,749	10.0	8.48	$170,000	$1,441,600
New Shoulder:		38,802	8.0	4.89	$170,000	$831,300
Exist Mainline:		0	0.0	0.00	$170,000	$0
Exist Shoulder:		0	0.0	0.00	$170,000	$0
		92,551		**13.37**		**$2,272,900**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Marth Rd	27R26	27R25		9,107	3,561	$250	$890,250	Segment 2
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$890,250**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS			% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction			**20%**	$2,272,900	$2,727,480
BRIDGE COST				**20%**	$890,250	$1,068,300
MEDIAN BARRIER	$75/LIN FT	7929	$75	**20%**	$594,675	$713,610
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)					$0	$0
						$4,509,390
				ESTIMATED CONSTRUCTION COST (MnDOT)	**$3,757,825**	**$4,509,390**

PVMT. $ / SQ FT	$24.56
PVMT. $ / SQ FT (RISK)	$29.47
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$270,583
	$ / LANE MILE	$270,583
TOTAL PROJECT	PROJ. $ / MILE	$536,832
	$ / LANE MILE	$536,832

TOTAL PROJECT MILES	8
TOTAL PROJECT LANE MILES	8

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$541,127**
Construction 8% of Construction Cost	**$360,751**
Engineering Total 20% of Construction	**$901,878**

SUB-TOTAL (CONSTRUCTION + RISK) >>>			**$4,509,390**
OVERALL PROJECT RISK	**20.00%**	**PROJECT RISK DOLLARS**	$751,565
RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$541,126.80**	$606,062
RAILROAD AGREEMENT COST		**$0.00**	$0
MAJOR UTILITY RELOCATION COST	**5.0%**	**$225,469.50**	$236,743
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$225,469.50**	$236,743
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$45,093.90**	$45,545

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$5,546,550**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	**$5,588,938**
CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>>	**$5,949,689**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME:	**Pamela Fincher**		
Estimate's Completion Date:	03/14/17		
Project Location:			
N I-494	**to**	**S of TH 62 Interchange**	
Project Description:			
MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)			

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1.1**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS — IN INCHES

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		335,000	10.0	52.87	$90,000	$4,758,300
New Shoulder:		217,313	8.0	27.43	$90,000	$2,468,700
Exist Mainline:		218,159	0.0	0.00	$90,000	$0
Exist Shoulder:		0	0.0	0.00	$90,000	$0
		770,472		**80.30**		**$7,227,000**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Valley View Rd	27589			0	0	$250	$0	Segment 3
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$0**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction				**20%**	$7,227,000	$8,672,400
BRIDGE COST					**20%**	$0	$0
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2		$100,000	**20%**	$200,000	$240,000
ROADWAY LIGHTING COST	$300,000/ mile	1.1		$300,000	**20%**	$330,000	$396,000
INTERCHANGE LIGHTING COST	$80,000/interchange			$80,000	**20%**	$0	$0
NOISE WALL COST		3500	20	$22	**20%**	$1,540,000	$1,848,000
RETAINING WALL COST	Valley View Road Abutments	200	5	$100	**20%**	$100,000	$120,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)		1.1	$300,000	**20%**	$330,000	$396,000
OVERHEAD SIGNS		2		$50,000	**20%**	$100,000	$120,000
SIGNALS				$200,000	**20%**	$0	$0
MEDIAN BARRIER	$75/LIN FT	5874		$75	**20%**	$440,550	$528,660
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)						$0	$0
							$12,321,060
					ESTIMATED CONSTRUCTION COST (MnDOT)	**$10,267,550**	**$12,321,060**

PVMT. $ / SQ FT	$9.38
PVMT. $ / SQ FT (RISK)	$11.26
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$1,062,794
	$ / LANE MILE	$1,062,794
TOTAL PROJECT	PROJ. $ / MILE	$1,811,920.59
	$ / LANE MILE	$1,811,921

TOTAL PROJECT MILES	7
TOTAL PROJECT LANE MILES	7

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$1,478,527**
Construction 8% of Construction Cost	**$985,685**
Engineering Total 20% of Construction	**$2,464,212**

SUB-TOTAL (CONSTRUCTION + RISK) >>>			**$12,321,060**
OVERALL PROJECT RISK	**20.00%**	**PROJECT RISK DOLLARS**	$2,053,510
RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$1,478,527.20**	$1,655,950
RAILROAD AGREEMENT COST		**$0.00**	$0
MAJOR UTILITY RELOCATION COST	**5.0%**	**$616,053.00**	$646,856
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$616,053.00**	$646,856
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$123,210.60**	$124,443
(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)			
TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES	**>>>**	**$15,154,904**	
CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>			**$15,270,722**
CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>>			**$16,256,407**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME:	**Pamela Fincher**		
Estimate's Completion Date:	03/14/17		
Project Location:			
S of TH 62 Interchange	**to**	**N of TH 62 Interchange**	
Project Description:			

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**0.9**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS

IN INCHES

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		336,611	10.0	53.12	$170,000	$9,030,400
New Shoulder:		131,747	8.0	16.63	$170,000	$2,827,100
Exist Mainline:		141,632	0.0	0.00	$170,000	$0
Exist Shoulder:		0	0.0	0.00	$170,000	$0
		609,990		**69.75**		**$11,857,500**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
TH 62	27080	27079		25,022	40,648	$170	$6,910,160	Segment 4
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$6,910,160**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction				**20%**	$11,857,500	$14,229,000
BRIDGE COST					**20%**	$6,910,160	$8,292,192
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2		$100,000	**20%**	$200,000	$240,000
ROADWAY LIGHTING COST	$300,000/ mile	0.9		$300,000	**20%**	$270,000	$324,000
INTERCHANGE LIGHTING COST	$80,000/interchange	1		$80,000	**20%**	$80,000	$96,000
NOISE WALL COST		750	20	$22	**20%**	$330,000	$396,000
RETAINING WALL COST				$100	**20%**	$0	$0
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)		0.9	$300,000	**20%**	$270,000	$324,000
OVERHEAD SIGNS		4		$50,000	**20%**	$200,000	$240,000
SIGNALS				$200,000	**20%**	$0	$0
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)						$0	$0
							$24,141,192
				ESTIMATED CONSTRUCTION COST (MnDOT)		**$20,117,660**	**$24,141,192**

PVMT. $ / SQ FT	$19.44
PVMT. $ / SQ FT (RISK)	$23.33
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$1,992,857
	$ / LANE MILE	$1,992,857
TOTAL PROJECT	PROJ. $ / MILE	$4,057,343
	$ / LANE MILE	$4,057,343

TOTAL PROJECT MILES	6
TOTAL PROJECT LANE MILES	6

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$2,896,943**
Construction 8% of Construction Cost	**$1,931,295**
Engineering Total 20% of Construction	**$4,828,238**

SUB-TOTAL (CONSTRUCTION + RISK) >>> **$24,141,192**

OVERALL PROJECT RISK 20.00% **PROJECT RISK DOLLARS** $4,023,532

RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$2,896,943.04**	$3,244,576
RAILROAD AGREEMENT COST		**$0.00**	$0
MAJOR UTILITY RELOCATION COST	**5.0%**	**$1,207,059.60**	$1,267,413
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$1,207,059.60**	$1,267,413
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$241,411.92**	$243,826

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$29,693,666**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>> **$29,920,593**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>> **$31,851,889**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME:	**Pamela Fincher**		
Estimate's Completion Date:	03/14/17		
Project Location:			
N of TH 62 Interchange	**to**	**N of Interlachen Blvd**	
Project Description:			

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1.1**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS — IN INCHES

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		101,870	10.0	16.07	$90,000	$1,446,300
New Shoulder:		56,583	8.0	7.14	$90,000	$642,600
Exist Mainline:		384,589	0.0	0.00	$90,000	$0
Exist Shoulder:		83,804	0.0	0.00	$90,000	$0
		626,846		**23.21**		**$2,088,900**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Bren Rd	27B69			0	0	$250	$0	Segment 5
Nine Mile Creek	27568			11,072	0	$250	$0	
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$0**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction				**20%**	$2,088,900	$2,506,680
BRIDGE COST					**20%**	$0	$0
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2		$100,000	**20%**	$200,000	$240,000
ROADWAY LIGHTING COST	$300,000/ mile	1.1		$300,000	**20%**	$330,000	$396,000
INTERCHANGE LIGHTING COST	$80,000/interchange	1		$80,000	**20%**	$80,000	$96,000
NOISE WALL COST		750	20	$22	**20%**	$330,000	$396,000
RETAINING WALL COST				$100	**20%**	$0	$0
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)		1.1	$300,000	**20%**	$330,000	$396,000
OVERHEAD SIGNS		4		$50,000	**20%**	$200,000	$240,000
SIGNALS				$200,000	**20%**	$0	$0
MEDIAN BARRIER	$75/LIN FT	4884		$75	**20%**	$366,300	$439,560
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)						$0	$0
							$4,710,240
				ESTIMATED CONSTRUCTION COST (MnDOT)		**$3,925,200**	**$4,710,240**

PVMT. $ / SQ FT	$3.33
PVMT. $ / SQ FT (RISK)	$4.00
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$334,224
	$ / LANE MILE	$334,224
TOTAL PROJECT	PROJ. $ / MILE	$753,638
	$ / LANE MILE	$753,638

TOTAL PROJECT MILES	6
TOTAL PROJECT LANE MILES	6

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$565,229**
Construction 8% of Construction Cost	**$376,819**
Engineering Total 20% of Construction	**$942,048**

SUB-TOTAL (CONSTRUCTION + RISK) >>> **$4,710,240**

OVERALL PROJECT RISK 20.00% **PROJECT RISK DOLLARS** $785,040

RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$565,228.80**	$633,056
RAILROAD AGREEMENT COST		**$0.00**	$0
MAJOR UTILITY RELOCATION COST	**5.0%**	**$235,512.00**	$247,288
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$235,512.00**	$247,288
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$47,102.40**	$47,573

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$5,793,595**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>> **$5,837,871**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>> **$6,214,691**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME: Pamela Fincher			
Estimate's Completion Date:	03/14/17		
Project Location:			
N of Interlachen Blvd	**to**	**S of Bridge at 2nd St**	
Project Description:			

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1.1**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS — **IN INCHES**

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		191,727	10.0	30.25	$170,000	$5,142,500
New Shoulder:		127,669	8.0	16.11	$170,000	$2,738,700
Exist Mainline:		253,064	0.0	0.00	$170,000	$0
Exist Shoulder:		0	0.0	0.00	$170,000	$0
		572,460		**46.36**		**$7,881,200**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Interlachen Rd	27567			11,072	0	$250	$0	Segment 6
CSAH 3 Excelsior Blvd/ RR	27586			104,702	12,603	$250	$3,150,750	
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$3,150,750**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction				**20%**	$7,881,200	$9,457,440
BRIDGE COST					**20%**	$3,150,750	$3,780,900
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2		$100,000	**20%**	$200,000	$240,000
ROADWAY LIGHTING COST	$300,000/ mile	1.1		$300,000	**20%**	$330,000	$396,000
INTERCHANGE LIGHTING COST	$80,000/interchange	2		$80,000	**20%**	$160,000	$192,000
NOISE WALL COST		1750	20	$22	**20%**	$770,000	$924,000
RETAINING WALL COST	CSAH 3 WB Approach	1000	10	$100	**20%**	$1,000,000	$1,200,000
RETAINING WALL COST	Interlachen Road	200	5	$100	**20%**	$100,000	$120,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)		1.1	$300,000	**20%**	$330,000	$396,000
OVERHEAD SIGNS		3		$50,000	**20%**	$150,000	$180,000
SIGNALS				$200,000	**20%**	$0	$0
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)						$0	$0
							$16,886,340
					ESTIMATED CONSTRUCTION COST (MnDOT)	**$14,071,950**	**$16,886,340**

PVMT. $ / SQ FT	$13.77
PVMT. $ / SQ FT (RISK)	$16.52
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$1,079,616
	$ / LANE MILE	$1,079,616
TOTAL PROJECT	PROJ. $ / MILE	$2,313,197
	$ / LANE MILE	$2,313,197

TOTAL PROJECT MILES	7
TOTAL PROJECT LANE MILES	7

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$2,026,361**
Construction 8% of Construction Cost	**$1,350,907**
Engineering Total 20% of Construction	**$3,377,268**

SUB-TOTAL (CONSTRUCTION + RISK) >>>			**$16,886,340**
OVERALL PROJECT RISK	**20.00%**	**PROJECT RISK DOLLARS**	$2,814,390
RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$2,026,360.80**	$2,269,524
RAILROAD AGREEMENT COST	**1.0%**	**$168,863.40**	$170,552
MAJOR UTILITY RELOCATION COST	**5.0%**	**$844,317.00**	$886,533
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$844,317.00**	$886,533
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$168,863.40**	$170,552

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$20,939,062**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	**$21,099,482**
CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>>	**$22,450,389**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :	
NAME:	Pamela Fincher
Estimate's Completion Date:	03/14/17
Project Location:	
N of Interlachen Blvd to S of Bridge at 2nd St	
Project Description:	
MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)	

SP		DISTRICT	METRO
TH	169	LENGTH	1.1
MSD #		ID #	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS — IN INCHES

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		298,568	10.0	47.12	$170,000	$8,010,400
New Shoulder:		112,278	8.0	14.17	$170,000	$2,408,900
Exist Mainline:		171,802	0.0	0.00	$170,000	$0
Exist Shoulder:		1,470	0.0	0.00	$170,000	$0
		584,118		**61.29**		**$10,419,300**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Interlachen Rd	25767			11,072	0	$250	$0	Segment 6
CSAH 3 Excelsior Blvd/ RR	27586			105,215	80,289	$170	$13,649,130	
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$13,649,130**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction				**20%**	$10,419,300	$12,503,160
BRIDGE COST					**20%**	$13,649,130	$16,378,956
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2		$100,000	**20%**	$200,000	$240,000
ROADWAY LIGHTING COST	$300,000/ mile	1.1		$300,000	**20%**	$330,000	$396,000
INTERCHANGE LIGHTING COST	$80,000/interchange	2		$80,000	**20%**	$160,000	$192,000
NOISE WALL COST		1750	20	$22	**20%**	$770,000	$924,000
RETAINING WALL COST	CSAH 3 Approaches	2000	10	$100	**20%**	$2,000,000	$2,400,000
RETAINING WALL COST	Interlachen Road	200	5	$100	**20%**	$100,000	$120,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)		1.1	$300,000	**20%**	$330,000	$396,000
OVERHEAD SIGNS		3		$50,000	**20%**	$150,000	$180,000
SIGNALS				$200,000	**20%**	$0	$0
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)						$0	$0
							$33,730,116
				ESTIMATED CONSTRUCTION COST (MnDOT)		**$28,108,430**	**$33,730,116**

PVMT. $ / SQ FT	$17.84
PVMT. $ / SQ FT (RISK)	$21.41
LWD PORTION COST	OTHER COSTS

ROADWAY ONLY	PVMT. $ / MILE	$1,427,301
	$ / LANE MILE	$1,427,301
TOTAL PROJECT	PROJ. $ / MILE	$4,620,564
	$ / LANE MILE	$4,620,564

TOTAL PROJECT MILES	7
TOTAL PROJECT LANE MILES	7

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$4,047,614**
Construction 8% of Construction Cost	**$2,698,409**
Engineering Total 20% of Construction	**$6,746,023**

SUB-TOTAL (CONSTRUCTION + RISK) >>>			**$33,730,116**
OVERALL PROJECT RISK	**20.00%**	**PROJECT RISK DOLLARS**	$5,621,686
RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$4,047,613.92**	$4,533,328
RAILROAD AGREEMENT COST	**1.0%**	**$337,301.16**	$340,674
MAJOR UTILITY RELOCATION COST	**5.0%**	**$1,686,505.80**	$1,770,831
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$1,686,505.80**	$1,770,831
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$337,301.16**	$340,674

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$41,825,344**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>> **$42,145,780**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>> **$44,844,189**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME:	**Pamela Fincher**		
Estimate's Completion Date:	03/14/17		
Project Location:			
S of Bridge at 2nd St	**to**	**S of Bridge at Minnetonka Blvd**	
Project Description:			

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1.3**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS — **IN INCHES**

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		359,901	10.0	56.80	$170,000	$9,656,000
New Shoulder:		210,604	8.0	26.59	$170,000	$4,520,300
Exist Mainline:		332,373	0.0	0.00	$170,000	$0
Exist Shoulder:		0	0.0	0.00	$170,000	$0
		902,878		**83.39**		**$14,176,300**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
2nd St	27587			11,117	2,469	$250	$617,250	
CSAH 7	27033			27,181	0	$250	$0	Segment 7
36th St	27583			12,327	0	$250	$0	
Minnehaha Creek	91115			4,053	907	$250	$226,750	
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$844,000**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction				**20%**	$14,176,300	$17,011,560
BRIDGE COST					**20%**	$844,000	$1,012,800
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2		$100,000	**20%**	$200,000	$240,000
ROADWAY LIGHTING COST	$300,000/ mile	1.3		$300,000	**20%**	$390,000	$468,000
INTERCHANGE LIGHTING COST	$80,000/interchange	2		$80,000	**20%**	$160,000	$192,000
NOISE WALL COST		1400	20	$22	**20%**	$616,000	$739,200
RETAINING WALL COST	CSAH 7 / 36th St	400	5	$100	**20%**	$200,000	$240,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)		1.3	$300,000	**20%**	$390,000	$468,000
OVERHEAD SIGNS		4		$50,000	**20%**	$200,000	$240,000
SIGNALS				$200,000	**20%**	$0	$0
NEED MORE LINES? ADD ADDITIONAL ROWS HERE(HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)						$0	$0
							$20,611,560
					ESTIMATED CONSTRUCTION COST (MnDOT)	**$17,176,300**	**$20,611,560**

PVMT. $ / SQ FT	$15.70
PVMT. $ / SQ FT (RISK)	$18.84
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$1,642,677
	$ / LANE MILE	$1,642,677
TOTAL PROJECT	PROJ. $ / MILE	$2,388,362
	$ / LANE MILE	$2,388,362

TOTAL PROJECT MILES	9
TOTAL PROJECT LANE MILES	9

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$2,473,387**
Construction 8% of Construction Cost	**$1,648,925**
Engineering Total 20% of Construction	**$4,122,312**

SUB-TOTAL (CONSTRUCTION + RISK) >>> **$20,611,560**

OVERALL PROJECT RISK 20.00% **PROJECT RISK DOLLARS** $3,435,260

RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$2,473,387.20**	$2,770,194
RAILROAD AGREEMENT COST	**1.0%**	**$206,115.60**	$208,177
MAJOR UTILITY RELOCATION COST	**5.0%**	**$1,030,578.00**	$1,082,107
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$1,030,578.00**	$1,082,107
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$206,115.60**	$208,177

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$25,558,334**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>> **$25,754,144**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>> **$27,403,069**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME:	**Pamela Fincher**		
Estimate's Completion Date:	03/14/17		
Project Location:			
S of Bridge at Minnetonka Blvd	**to**	**W 16th St**	
Project Description:			

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1.4**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS

IN INCHES

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		385,532	10.0	60.84	$170,000	$10,342,800
New Shoulder:		191,295	8.0	24.15	$170,000	$4,105,500
New Walk:		0	6.0	0.00	$170,000	$0
Exist Mainline:		310,178	0.0	0.00	$170,000	$0
Exist Shoulder:		0	0.0	0.00	$170,000	$0
		887,005		**84.99**		**$14,448,300**

PROJECT BRIDGE COST CALCULATIONS

LOCATION		BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Minnetonka Blvd					10,944	8,786	$250	$2,196,500	Segment 8
Railroad Tracks					14,936	3,255	$250	$813,750	
Proposed Jordan Ave Bridge						11,159	$170	$1,897,030	
Proposed Ramp						6,320	$170	$1,074,400	
Cedar Lake Rd					9,222	13,294	$170	$2,259,980	
Proposed Ramp						8,850	$170	$1,504,500	

http://dotapp9.dot.state.mn.us/bridgeinfo3/ **BRIDGE COST TOTALS** **$9,746,160**

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction				**20%**	$14,448,300	$17,337,960
BRIDGE COST					**20%**	$9,746,160	$11,695,392
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2		$100,000	**20%**	$200,000	$240,000
ROADWAY LIGHTING COST	$300,000/ mile	1.4		$300,000	**20%**	$420,000	$504,000
INTERCHANGE LIGHTING COST	$80,000/interchange	2		$80,000	**20%**	$160,000	$192,000
NOISE WALL COST		4000	20	$22	**20%**	$1,760,000	$2,112,000
RETAINING WALL COST	CSAH 7 / 36th St	2200	15	$100	**20%**	$3,300,000	$3,960,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)		1.4	$300,000	**20%**	$420,000	$504,000
OVERHEAD SIGNS		5	.	$50,000	**20%**	$250,000	$300,000
SIGNALS		2		$200,000	**20%**	$400,000	$480,000
NEED MORE LINES? ADD ADDITIONAL ROWS HERE(HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)						$0	$0
							$37,325,352
				ESTIMATED CONSTRUCTION COST (MnDOT)		**$31,104,460**	**$37,325,352**

PVMT. $ / SQ FT	$16.29
PVMT. $ / SQ FT (RISK)	$19.55
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$1,674,195
	$ / LANE MILE	$5,197,230
TOTAL PROJECT	PROJ. $ / MILE	$4,325,070
	$ / LANE MILE	$13,426,386

TOTAL PROJECT MILES	9
TOTAL PROJECT LANE MILES	3

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$4,479,042**
Construction 8% of Construction Cost	**$2,986,028**
Engineering Total 20% of Construction	**$7,465,070**

SUB-TOTAL (CONSTRUCTION + RISK) >>> **$37,325,352**

OVERALL PROJECT RISK **20.00%** **PROJECT RISK DOLLARS** $6,220,892

RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$4,479,042.24**	$5,016,527
RAILROAD AGREEMENT COST	**1.0%**	**$373,253.52**	$376,986
MAJOR UTILITY RELOCATION COST	**5.0%**	**$1,866,267.60**	$1,959,581
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$1,866,267.60**	$1,959,581
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$373,253.52**	$376,986

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$46,283,436**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>> **$46,638,027**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>> **$49,624,055**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME:	**Pamela Fincher**		
Estimate's Completion Date:	03/14/17		
Project Location:			
S of Bridge at Minnetonka Blvd	**to**	**W 16th St**	
Project Description:			

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1.4**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS

IN INCHES

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		435,609	10.0	68.75	$170,000	$11,687,500
New Shoulder:		160,471	8.0	20.26	$170,000	$3,444,200
New Walk:		0	6.0	0.00	$170,000	$0
Exist Mainline:		319,006	0.0	0.00	$170,000	$0
Exist Shoulder:		0	0.0	0.00	$170,000	$0
		915,086		**89.01**		**$15,131,700**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Minnetonka Blvd				10,944	8,786	$250	$2,196,500	Segment 8a
Railroad Tracks				14,936	3,255	$250	$813,750	
Proposed Jordan Ave Bridge					11,159	$170	$1,897,030	
Proposed Ramp					6,320	$170	$1,074,400	
Cedar Lake Rd				9,222	13,294	$170	$2,259,980	
Proposed Ramp					8,850	$170	$1,504,500	
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$9,746,160**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction				**20%**	$15,131,700	$18,158,040
BRIDGE COST					**20%**	$9,746,160	$11,695,392
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2		$100,000	**20%**	$200,000	$240,000
ROADWAY LIGHTING COST	$300,000/ mile	1.4		$300,000	**20%**	$420,000	$504,000
INTERCHANGE LIGHTING COST	$80,000/interchange	2		$80,000	**20%**	$160,000	$192,000
NOISE WALL COST		4000	20	$22	**20%**	$1,760,000	$2,112,000
RETAINING WALL COST	CSAH 7 / 36th St	2200	15	$100	**20%**	$3,300,000	$3,960,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)		1.4	$300,000	**20%**	$420,000	$504,000
OVERHEAD SIGNS		5	.	$50,000	**20%**	$250,000	$300,000
SIGNALS		2		$200,000	**20%**	$400,000	$480,000
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)						$0	$0
							$38,145,432
				ESTIMATED CONSTRUCTION COST (MnDOT)		**$31,787,860**	**$38,145,432**

PVMT. $ / SQ FT	$16.54
PVMT. $ / SQ FT (RISK)	$19.84
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$1,753,384
	$ / LANE MILE	$1,753,384
TOTAL PROJECT	PROJ. $ / MILE	$4,420,096
	$ / LANE MILE	$4,420,096

TOTAL PROJECT MILES	9
TOTAL PROJECT LANE MILES	9

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$4,577,452**
Construction 8% of Construction Cost	**$3,051,635**
Engineering Total 20% of Construction	**$7,629,086**

SUB-TOTAL (CONSTRUCTION + RISK) >>> **$38,145,432**

OVERALL PROJECT RISK 20.00% **PROJECT RISK DOLLARS** $6,357,572

RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$4,577,451.84**	$5,126,746
RAILROAD AGREEMENT COST	**1.0%**	**$381,454.32**	$385,269
MAJOR UTILITY RELOCATION COST	**5.0%**	**$1,907,271.60**	$2,002,635
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$1,907,271.60**	$2,002,635
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$381,454.32**	$385,269

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$47,300,336**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>> **$47,662,717**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>> **$50,714,352**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME:	**Pamela Fincher**		
Estimate's Completion Date:	03/14/17		
Project Location:			
S of Bridge at Minnetonka Blvd	**to**	**W 16th St**	
Project Description:			

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1.4**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS

IN INCHES

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		401,159	10.0	63.31	$170,000	$10,762,700
New Shoulder:		198,193	8.0	25.02	$170,000	$4,253,400
New Walk:		0	6.0	0.00	$170,000	$0
Exist Mainline:		329,113	0.0	0.00	$170,000	$0
Exist Shoulder:		0	0.0	0.00	$170,000	$0
		928,465		**88.33**		**$15,016,100**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)	BR REMOVAL SQ FT	EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Minnetonka Blvd				10,944	8,786	$250	$2,196,500	
Railroad Tracks				14,936	3,255	$250	$813,750	
Proposed Ramp					2,775	$170	$471,750	
Proposed Ramp					6,511	$170	$1,106,870	Segment 8a
Proposed Cove Dr Underpass					18,444	$170	$3,135,480	
Proposed Ramp				9,222	12,627	$170	$2,146,590	
Proposed Ramp					7,360	$170	$1,251,200	
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$11,122,140**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction				**20%**	$15,016,100	$18,019,320
BRIDGE COST					**20%**	$11,122,140	$13,346,568
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2		$100,000	**20%**	$200,000	$240,000
ROADWAY LIGHTING COST	$300,000/ mile	1.4		$300,000	**20%**	$420,000	$504,000
INTERCHANGE LIGHTING COST	$80,000/interchange	2		$80,000	**20%**	$160,000	$192,000
NOISE WALL COST		4000	20	$22	**20%**	$1,760,000	$2,112,000
RETAINING WALL COST	CSAH 7 / 36th St	3100	15	$100	**20%**	$4,650,000	$5,580,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)		1.4	$300,000	**20%**	$420,000	$504,000
OVERHEAD SIGNS		5	.	$50,000	**20%**	$250,000	$300,000
SIGNALS		2		$200,000	**20%**	$400,000	$480,000
NEED MORE LINES? ADD ADDITIONAL ROWS HERE(HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)						$0	$0
							$41,277,888
					ESTIMATED CONSTRUCTION COST (MnDOT)	**$34,398,240**	**$41,277,888**

PVMT. $ / SQ FT	$16.17
PVMT. $ / SQ FT (RISK)	$19.41
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$1,739,988
	$ / LANE MILE	$1,739,988
TOTAL PROJECT	PROJ. $ / MILE	$4,783,069
	$ / LANE MILE	$4,783,069

TOTAL PROJECT MILES	9
TOTAL PROJECT LANE MILES	9

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$4,953,347**
Construction 8% of Construction Cost	**$3,302,231**
Engineering Total 20% of Construction	**$8,255,578**

SUB-TOTAL (CONSTRUCTION + RISK) >>> **$41,277,888**

OVERALL PROJECT RISK 20.00% **PROJECT RISK DOLLARS** $6,879,648

RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$4,953,346.56**	$5,547,748
RAILROAD AGREEMENT COST	**1.0%**	**$412,778.88**	$416,907
MAJOR UTILITY RELOCATION COST	**5.0%**	**$2,063,894.40**	$2,167,089
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$2,063,894.40**	$2,167,089
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$412,778.88**	$416,907

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$51,184,581**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>> **$51,576,721**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>> **$54,878,952**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			
NAME:	**Pamela Fincher**		
Estimate's Completion Date:	03/14/17		
Project Location:			
S of Bridge at Minnetonka Blvd	**to**	**W 16th St**	
Project Description:			

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1.4**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS

IN INCHES

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		412,567	10.0	65.11	$170,000	$11,068,700
New Shoulder:		189,741	8.0	23.95	$170,000	$4,071,500
New Walk:		0	6.0	0.00	$170,000	$0
Exist Mainline:		288,016	0.0	0.00	$170,000	$0
Exist Shoulder:		0	0.0	0.00	$170,000	$0
		890,324		**89.06**		**$15,140,200**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Minnetonka Blvd				10,944	8,786	$250	$2,196,500	Segment 8a
Railroad Tracks				14,936	3,255	$250	$813,750	
Proposed Jordan Ave Bridge				0	6,018	$170	$1,023,060	
Cedar Lake Rd				9,222	13,294	$170	$2,259,980	

http://dotapp9.dot.state.mn.us/bridgeinfo3/ **BRIDGE COST TOTALS** **$6,293,290**

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction				**20%**	$15,140,200	$18,168,240
BRIDGE COST					**20%**	$6,293,290	$7,551,948
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2		$100,000	**20%**	$200,000	$240,000
ROADWAY LIGHTING COST	$300,000/ mile	1.4		$300,000	**20%**	$420,000	$504,000
INTERCHANGE LIGHTING COST	$80,000/interchange	2		$80,000	**20%**	$160,000	$192,000
NOISE WALL COST		4000	20	$22	**20%**	$1,760,000	$2,112,000
RETAINING WALL COST	CSAH 7 / 36th St	1800	15	$100	**20%**	$2,700,000	$3,240,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)		1.4	$300,000	**20%**	$420,000	$504,000
OVERHEAD SIGNS		3	.	$50,000	**20%**	$150,000	$180,000
SIGNALS		3		$200,000	**20%**	$600,000	$720,000
NEED MORE LINES? ADD ADDITIONAL ROWS HERE(HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)						$0	$0
							$33,412,188
				ESTIMATED CONSTRUCTION COST (MnDOT)		**$27,843,490**	**$33,412,188**

PVMT. $ / SQ FT	$17.01
PVMT. $ / SQ FT (RISK)	$20.41
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$1,754,368
	$ / LANE MILE	$1,754,368
TOTAL PROJECT	PROJ. $ / MILE	$3,871,632
	$ / LANE MILE	$3,871,632

TOTAL PROJECT MILES	9
TOTAL PROJECT LANE MILES	9

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$4,009,463**
Construction 8% of Construction Cost	**$2,672,975**
Engineering Total 20% of Construction	**$6,682,438**

SUB-TOTAL (CONSTRUCTION + RISK) >>>			**$33,412,188**
OVERALL PROJECT RISK	**20.00%**	**PROJECT RISK DOLLARS**	$5,568,698
RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$4,009,462.56**	$4,490,598
RAILROAD AGREEMENT COST	**1.0%**	**$334,121.88**	$337,463
MAJOR UTILITY RELOCATION COST	**5.0%**	**$1,670,609.40**	$1,754,140
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$1,670,609.40**	$1,754,140
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$334,121.88**	$337,463

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$41,431,113**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	**$41,748,529**
CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>>	**$44,421,504**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :			**SP**		**DISTRICT**	**METRO**
NAME:	**Pamela Fincher**		**TH**	**169**	**LENGTH**	**1.35**
Estimate's Completion Date:	03/14/17		**MSD #**		**ID #**	
Project Location:			**LETTING YEAR:**			
W 16th St	**to**	**TH 55**				
Project Description:						
MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)						

PROJECT ROADWAY COST CALCULATIONS — **IN INCHES**

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		632,173	10.0	99.77	$170,000	$16,960,900
New Shoulder:		207,661	8.0	26.21	$170,000	$4,455,700
New Walk:		62,053	6.0	5.87	$170,000	$997,900
Exist Mainline:		405,869	0.0	0.00	$170,000	$0
Exist Shoulder:		22,672	0.0	0.00	$170,000	$0
		1,330,428		**131.85**		**$22,414,500**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)	BR REMOVAL SQ FT	EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Bridges				71,095	67,529	$170	$11,479,930	Segment 9
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$11,479,930**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction				**20%**	$22,414,500	$26,897,400
BRIDGE COST					**20%**	$11,479,930	$13,775,916
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	4		$100,000	**20%**	$400,000	$480,000
ROADWAY LIGHTING COST	$300,000/ mile	1.35		$300,000	**20%**	$405,000	$486,000
INTERCHANGE LIGHTING COST	$80,000/interchange	3		$80,000	**20%**	$240,000	$288,000
NOISE WALL COST		2000	20	$22	**20%**	$880,000	$1,056,000
RETAINING WALL COST	CSAH 7 / 36th St	1500	15	$100	**20%**	$2,250,000	$2,700,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)		1.35	$300,000	**20%**	$405,000	$486,000
OVERHEAD SIGNS		10	.	$50,000	**20%**	$500,000	$600,000
SIGNALS		3		$200,000	**20%**	$600,000	$720,000
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)						$0	$0
							$47,489,316
						ESTIMATED CONSTRUCTION COST (MnDOT)	**$39,574,430**	**$47,489,316**

PVMT. $ / SQ FT	$16.85
PVMT. $ / SQ FT (RISK)	$20.22
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$2,801,813
	$ / LANE MILE	$2,801,813
TOTAL PROJECT	PROJ. $ / MILE	$5,936,165
	$ / LANE MILE	$5,936,165

TOTAL PROJECT MILES	8
TOTAL PROJECT LANE MILES	8

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$5,698,718**
Construction 8% of Construction Cost	**$3,799,145**
Engineering Total 20% of Construction	**$9,497,863**

SUB-TOTAL (CONSTRUCTION + RISK) >>>			**$47,489,316**
OVERALL PROJECT RISK	**20.00%**	**PROJECT RISK DOLLARS**	$7,914,886
RIGHT-OF-WAY COST	**0%**		$0
ENGINEERING DESIGN COST	**12.0%**	**$5,698,717.92**	$6,382,564
RAILROAD AGREEMENT COST		**$0.00**	$0
MAJOR UTILITY RELOCATION COST	**5.0%**	**$2,374,465.80**	$2,493,189
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$2,374,465.80**	$2,493,189
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$474,893.16**	$479,642

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$58,411,859**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	**$58,858,258**
CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>>	**$62,657,404**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :	
NAME:	**Pamela Fincher**
Estimate's Completion Date:	03/14/17
Project Location:	

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1.35**
MSD #		**ID #**	
LETTING YEAR:			

W 16th St **to** **TH 55**

Project Description:

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _.)

PROJECT ROADWAY COST CALCULATIONS — **IN INCHES**

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		1,813,334	10.0	286.19	$170,000	$48,652,300
New Shoulder:		536,431	8.0	67.73	$170,000	$11,514,100
New Walk:		0	6.0	0.00	$170,000	$0
Exist Mainline:		0	0.0	0.00	$170,000	$0
Exist Shoulder:		0	0.0	0.00	$170,000	$0
		2,349,765		**353.92**		**$60,166,400**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Bridges				71,095	292,811	$170	$49,777,870	Segment 9
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$49,777,870**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction				**20%**	$60,166,400	$72,199,680
BRIDGE COST					**20%**	$49,777,870	$59,733,444
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	4		$100,000	**20%**	$400,000	$480,000
ROADWAY LIGHTING COST	$300,000/ mile	1.35		$300,000	**20%**	$405,000	$486,000
INTERCHANGE LIGHTING COST	$80,000/interchange	3		$80,000	**20%**	$240,000	$288,000
NOISE WALL COST		2000	20	$22	**20%**	$880,000	$1,056,000
RETAINING WALL COST	CSAH 7 / 36th St	14000	15	$100	**20%**	$21,000,000	$25,200,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular ($300,000/mile)		1.35	$300,000	**20%**	$405,000	$486,000
OVERHEAD SIGNS		20	.	$50,000	**20%**	$1,000,000	$1,200,000
SIGNALS		3		$200,000	**20%**	$600,000	$720,000
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)						$0	$0
							$161,849,124
						ESTIMATED CONSTRUCTION COST (MnDOT)	**$134,874,270**	**$161,849,124**

PVMT. $ / SQ FT	$25.61
PVMT. $ / SQ FT (RISK)	$30.73
LWD PORTION COST	**OTHER** COSTS

ROADWAY ONLY	PVMT. $ / MILE	$4,628,185
	$ / LANE MILE	$7,520,800
TOTAL PROJECT	PROJ. $ / MILE	$12,449,933
	$ / LANE MILE	$20,231,141

TOTAL PROJECT MILES	13
TOTAL PROJECT LANE MILES	8
TOTAL PROJECT AUX. LANE MILES	5

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$19,421,895**
Construction 8% of Construction Cost	**$12,947,930**
Engineering Total 20% of Construction	**$32,369,825**

SUB-TOTAL (CONSTRUCTION + RISK) >>> **$161,849,124**

OVERALL PROJECT RISK **20.00%** **PROJECT RISK DOLLARS** $26,974,854

RIGHT-OF-WAY COST	**0%**		$2,800,000
ENGINEERING DESIGN COST	**12.0%**	**$19,421,894.88**	$21,752,522
RAILROAD AGREEMENT COST		**$0.00**	$0
MAJOR UTILITY RELOCATION COST	**5.0%**	**$8,092,456.20**	$8,497,079
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$8,092,456.20**	$8,497,079
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$1,618,491.24**	$1,634,676

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$199,074,423**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>> **$203,395,804**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>> **$216,343,734**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :	
NAME:	**Pamela Fincher**
Estimate's Completion Date:	03/14/17
Project Location:	
Marschall Rd	**to** **TH 55**
Project Description:	
Rehab	

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS — **IN INCHES**

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:			10.0	0.00	$170,000	$0
New Shoulder:			8.0	0.00	$170,000	$0
New Walk:			6.0	0.00	$170,000	$0
Exist Mainline:		4,626,553	8.0	584.16	$170,000	$99,307,200
Exist Shoulder:		322,286	8.0	40.69	$170,000	$6,917,300
		4,948,839		**624.85**		**$106,224,500**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Bridges				1,427,149		$75	$107,036,175	Segment 9
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$107,036,175**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS	% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction	**20%**	$106,224,500	$127,469,400
BRIDGE COST	New bridge width, $160 / SQFT	**20%**	$107,036,175	$128,443,410
NEED MORE LINES? ADD ADDITIONAL ROWS HERE	HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)		$0	$0
				$255,912,810
		ESTIMATED CONSTRUCTION COST (MnDOT)	**$213,260,675**	**$255,912,810**

PVMT. $ / SQ FT	$21.46
PVMT. $ / SQ FT (RISK)	$25.76
LWD PORTION COST	**OTHER** COSTS

SUB-TOTAL (CONSTRUCTION + RISK) >>> **$255,912,810**

OVERALL PROJECT RISK 20.00% **PROJECT RISK DOLLARS** $42,652,135

ROADWAY ONLY	PVMT. $ / MILE	#DIV/0!
	$ / LANE MILE	#DIV/0!
TOTAL PROJECT	PROJ. $ / MILE	#DIV/0!
	$ / LANE MILE	#DIV/0!

RIGHT-OF-WAY COST	**0%**		$2,800,000
RAILROAD AGREEMENT COST		**$0.00**	$0
MAJOR UTILITY RELOCATION COST	**1.0%**	**$2,559,128.10**	$2,584,719
TRAFFIC MANAGEMENT PLAN	**5.0%**	**$12,795,640.50**	$13,435,423
ESTIMATED PROJECT LANDSCAPE COST	**1.0%**	**$2,559,128.10**	$2,584,719

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL PROJECT MILES	0	
TOTAL PROJECT LANE MILES	0	
TOTAL PROJECT AUX. LANE MILES	0	

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$30,709,537**
Construction 8% of Construction Cost	**$20,473,025**
Engineering Total 20% of Construction	**$51,182,562**

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$273,826,707**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>> **$274,732,952**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>> **$325,915,514**

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :	
NAME:	**Pamela Fincher**
Estimate's Completion Date:	03/14/17
Project Location:	
Marschall Rd	**to** **TH 494**
Project Description:	
Rehab	

SP		**DISTRICT**	**METRO**
TH	**169**	**LENGTH**	**1**
MSD #		**ID #**	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS — **IN INCHES**

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:			10.0	0.00	$170,000	$0
New Shoulder:			8.0	0.00	$170,000	$0
New Walk:			6.0	0.00	$170,000	$0
Exist Mainline:		2,417,417	8.0	305.22	$170,000	$51,887,400
Exist Shoulder:		215,810	8.0	27.24	$170,000	$4,630,800
		2,633,227		**332.46**		**$56,518,200**

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	$ / SQ FT	COST	
Bridges				1,091,410		$75	$81,855,750	Segment 9
	http://dotapp9.dot.state.mn.us/bridgeinfo3/					**BRIDGE COST TOTALS**	**$81,855,750**	

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS	% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST **(PAVEMENT)**	Reconstruction	**20%**	$56,518,200	$67,821,840
BRIDGE COST	New bridge width, $160 / SQFT	**20%**	$81,855,750	$98,226,900
NEED MORE LINES? ADD ADDITIONAL ROWS HERE	(HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)		$0	$0
				$166,048,740
		ESTIMATED CONSTRUCTION COST (MnDOT)	**$138,373,950**	**$166,048,740**

PVMT. $ / SQ FT	$21.46
PVMT. $ / SQ FT (RISK)	$25.76
LWD PORTION COST	**OTHER** COSTS

SUB-TOTAL (CONSTRUCTION + RISK) >>> **$166,048,740**

OVERALL PROJECT RISK 20.00% **PROJECT RISK DOLLARS** $27,674,790

ROADWAY ONLY	PVMT. $ / MILE	#DIV/0!
	$ / LANE MILE	#DIV/0!
TOTAL PROJECT	PROJ. $ / MILE	#DIV/0!
	$ / LANE MILE	#DIV/0!

RIGHT-OF-WAY COST		**0%**		$2,800,000
RAILROAD AGREEMENT COST			**$0.00**	$0
MAJOR UTILITY RELOCATION COST		**1.0%**	**$1,660,487.40**	$1,677,092
TRAFFIC MANAGEMENT PLAN		**5.0%**	**$8,302,437.00**	$8,717,559
ESTIMATED PROJECT LANDSCAPE COST		**1.0%**	**$1,660,487.40**	$1,677,092

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL PROJECT MILES	0	
TOTAL PROJECT LANE MILES	0	
TOTAL PROJECT AUX. LANE MILES	0	

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	**$19,925,849**
Construction 8% of Construction Cost	**$13,283,899**
Engineering Total 20% of Construction	**$33,209,748**

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES **>>>** **$177,672,152**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>> **$179,243,391**

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + ENGINEERING COSTS) >>> **$212,453,139**