Capital Cost Estimating Methodology Technical Report

September 2008

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1. Introduction to Purple Line Study

The Maryland Transit Administration (MTA) is preparing an Alternatives Analysis and Draft Environmental Impact Statement (AA/DEIS) to study a range of alternatives for addressing mobility and accessibility issues in the corridor between Bethesda and New Carrollton, Maryland. The corridor is located in Montgomery and Prince George's Counties, just north of the Washington, D.C. boundary. The Purple Line would provide a rapid transit connection along the 16-mile corridor that lies between the Metrorail Red Line (Bethesda and Silver Spring Stations), Green Line (College Park Station), and Orange Line (New Carrollton Station).

This *Capital Cost Technical Memorandum* provides a framework for the presentation of methods, cost data, and cost assumptions used in the development of AA/DEIS level capital costs estimates for the alternatives which have been defined, developed and evaluated as part of the AA/DEIS. Comparative capital cost estimates are required in progressive levels of detail as the project development process passes through the various stages of the alternative analysis and environmental analysis process.

This Technical Memorandum presenting the capital cost estimating methodology is part of a set of common technical methods and guidance to be followed for the development and review of the proposed alternatives for the corridor. It presents the methodology and data used in the analyses documented in the Purple Line AA/DEIS. The results presented in this report may be updated as the AA/DEIS is finalized and in subsequent study activities.

1.1. Purpose and Scope

The purpose of this technical memorandum is to:

- Describe the methods used to define, quantify and present capital cost estimates required for project evaluation;
- Define the nature and sources for cost data used in the preparation of capital cost estimates;
- Define cost assumptions used in the preparation of capital cost estimates; and
- Explain limitations that are present in capital cost estimates at this stage of project definition.

The capital costing methodology is intended to provide professionally accepted guidelines for accurately and consistently estimating the costs of the capital components of the alignment(s) under consideration in the Purple Line Corridor. It will also provide a framework for using the cost estimates by defining the basis for the estimates and the associated level of confidence for the estimated costs for the various components. This will allow decision-makers to effectively evaluate capital costs as one of the significant criteria in their evaluation and selection of the components which will comprise the proposed project. Capital cost estimates also contribute to the assessment of effectiveness and efficiency.

1.2. Background and Project Location

Changing land uses in the Washington, D.C. area have resulted in more suburb-to-suburb travel, while the existing transit system is oriented toward radial travel in and out of downtown Washington, D.C. The only transit service available for east-west travel is bus service, which is slow and unreliable. A need exists for efficient, rapid, and high capacity transit for east-west travel. The Purple Line would serve transit patrons whose journey is solely east-west in the corridor, as well as those who want to access the existing north-south rapid transit services, particularly Metrorail and MARC commuter rail service.

The corridor has a sizeable population that already uses transit and contains some of the busiest transit routes and transfer areas in the Washington metropolitan area. Many communities in the corridor have a high percentage of households without a vehicle, and most transit in these communities is bus service. Projections of substantial growth in population and employment in the corridor indicate a growing need for transit improvements. The increasingly congested roadway system does not have adequate capacity to accommodate the existing average daily travel demand, and congestion on these roadways is projected to worsen as traffic continues to grow through 2030.

A need exists for high quality transit service to key activity centers and to improve transit travel time in the corridor. Although north-south rapid transit serves parts of the corridor, transit users who are not within walking distance of these services must drive or use slow and unreliable buses to access them. Faster and more reliable connections along the east-west Purple Line Corridor to the existing radial rail lines (Metrorail and MARC trains) would improve mobility and accessibility. This enhanced system connectivity would also help to improve transit efficiencies. In addition, poor air quality in the region needs to be addressed, and changes to the existing transportation infrastructure would help in attaining federal air quality standards.

1.2.1. Corridor Setting

The Purple Line Corridor, as shown in Figure 1-1, is north and northeast of Washington, D.C., with a majority of the alignment within one to three miles of the circumferential I-95/I-495 Capital Beltway.

1.3. Alternatives Retained for Detailed Study

The Purple Line study has identified eight alternatives for detailed study, shown on Figure 1-2. The alternatives include the No Build Alternative, the Transportation System Management (TSM) Alternative, and six Build Alternatives. The Build Alternatives include three using bus rapid transit (BRT) technology and three using light rail transit (LRT) technology.

All alternatives extend the full length of the Purple Line Corridor between the Bethesda Metro Station in the west and the New Carrollton Metro Station in the east, with variations in alignment, type of running way (shared, dedicated, or exclusive), and amount of grade-separation options (e.g., tunnel segments or aerial). For purposes of evaluation, complete alignments need

to be considered. These alternatives were used to examine the general benefits, costs, and impacts for serving major market areas within the corridor.

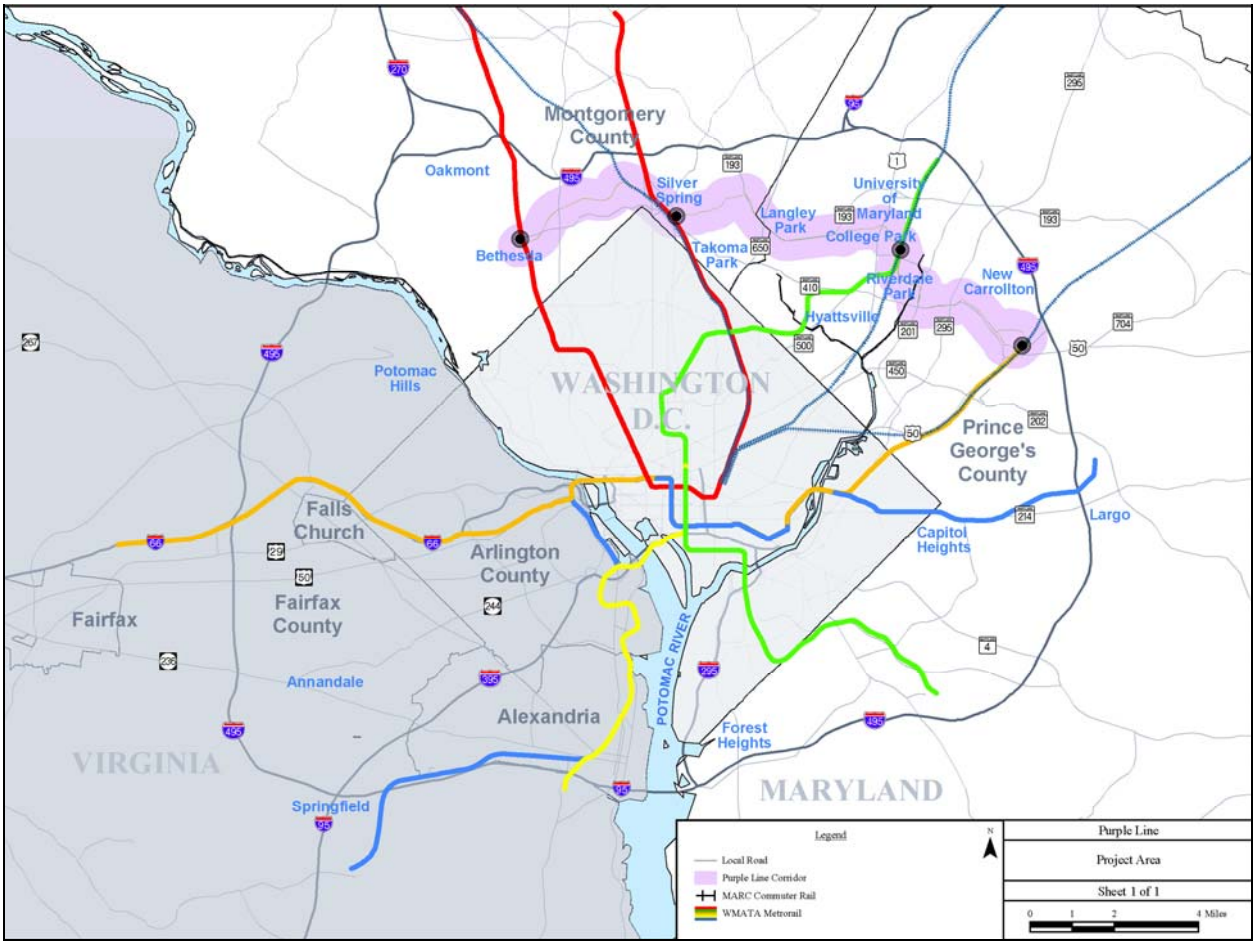

Figure 1-1: Project Location

1.3.1. Alternative 1: No Build Alternative

The No Build Alternative is used as the baseline against which the other alternatives are compared for purposes of environmental and community impacts. The No Build Alternative consists of the transit service levels, highway networks, traffic volumes, and forecasted demographics for horizon year 2030 that are assumed in the local Constrained Long Range Plan of the local metropolitan planning organization (in this case, the Metropolitan Washington Council of Governments).

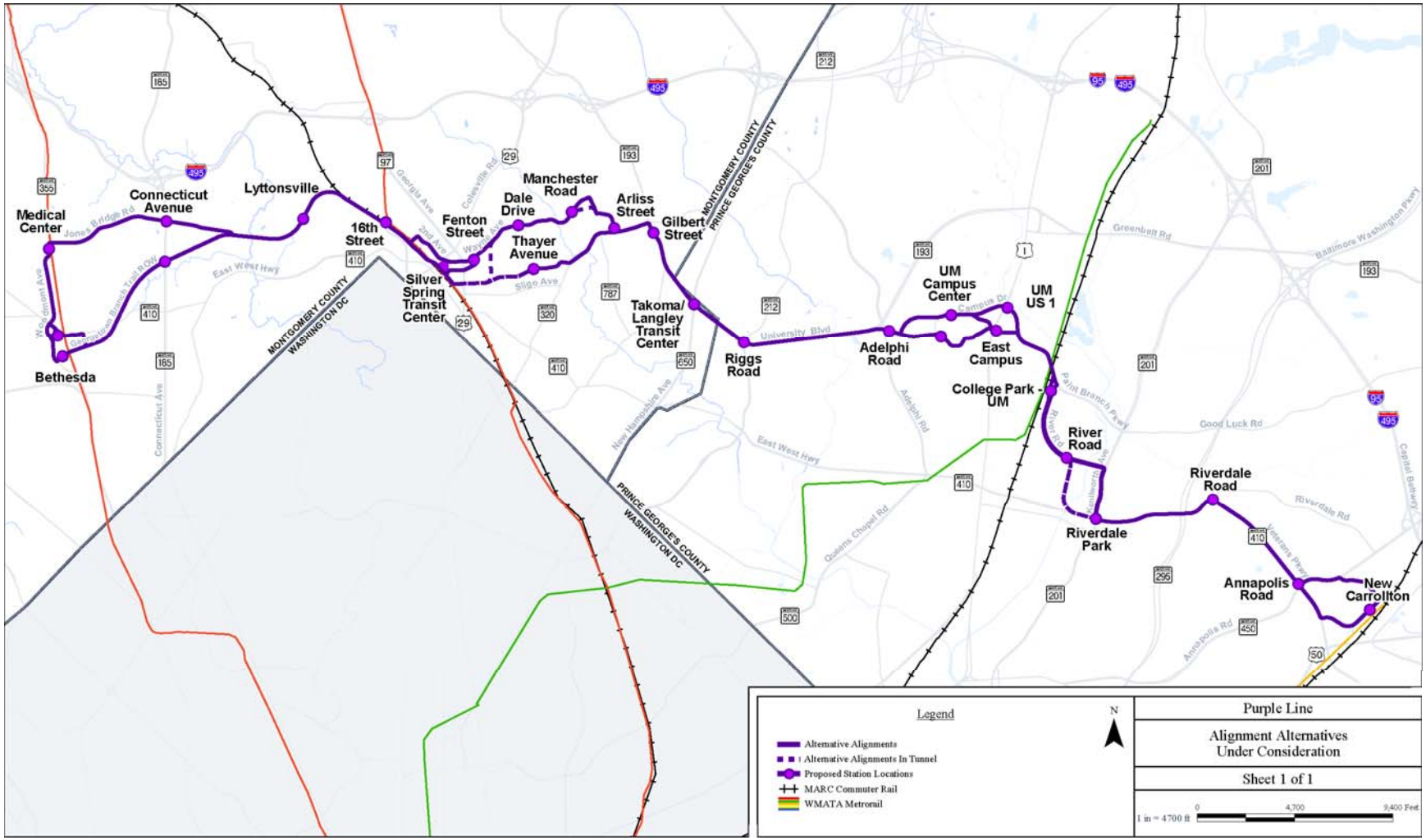

Figure 1-2: Alternative Alignments

1.3.2. Alternative 2: TSM Alternative

The TSM Alternative provides an appropriate baseline against which all major investment alternatives are evaluated for the Federal Transit Administration's New Starts funding program. The New Starts rating and evaluation process begins when the project applies to enter preliminary engineering and continues through final design.

The TSM Alternative represents the best that can be done for mobility in the corridor without constructing a new transitway. Generally, the TSM Alternative emphasizes upgrades in transit service through operational and minor physical improvements, plus selected highway upgrades through intersection improvements, minor widening, and other focused traffic engineering actions. A TSM Alternative normally includes such features as bus route restructuring, shortened bus headways, expanded use of articulated buses, reserved bus lanes, express and limited-stop service, signalization improvements, and timed-transfer operations.

1.3.3. Build Alternatives

The six Build Alternatives generally use the same alignments; only a few segments have locations where different roadways would be used. The differences between the alternatives are more often the incorporation of design features, such as grade separation to avoid congested roadways or intersections.

Alternative 3: Low Investment BRT

The Low Investment BRT Alternative would primarily use existing streets to avoid the cost of grade separation and extensive reconstruction of existing streets. It would incorporate signal, signage, and lane improvements in certain places. This alternative would operate mostly in mixed lanes with at-grade crossings of all intersections and queue jump lanes at some intersections. Southbound along Kenilworth Avenue and westbound along Annapolis Road, Low Investment BRT would operate in dedicated lanes. This is the only alternative that would operate on Jones Bridge Road, directly serving the National Institutes of Health and the National Naval Medical Center near Wisconsin Avenue and Jones Bridge Road. It is also the only alternative that would use the bus portion of the new Silver Spring Transit Center (SSTC). A detailed description of the alternative follows.

From the western terminus in Bethesda, Low Investment BRT would originate at the Bethesda Metro Station bus terminal. The alignment would operate on Woodmont Avenue within the existing curb. At the Bethesda Station, the buses would enter the station via Edgemoor Road and exit onto Old Georgetown Road.

At Wisconsin Avenue, just south of Jones Bridge Road, the transitway would remain on the west side of the road in exclusive lanes. Low Investment BRT would turn onto Jones Bridge Road where the transit would operate in shared lanes with queue jump lanes westbound at the intersection with Wisconsin Avenue and westbound for the intersection at Connecticut Avenue. Some widening would be required at North Chevy Chase Elementary School.

The alignment would continue along Jones Bridge Road to Jones Mill Road where it would turn right (south) onto Jones Mill Road. Eastbound on Jones Bridge Road would be a queue jump lane at the intersection. From Jones Mill Road, the alignment would turn east onto the Georgetown Branch right-of-way, where a new exclusive roadway would be constructed, with an adjacent trail on the south side.

Low Investment BRT would continue on the Georgetown Branch right-of-way, crossing Rock Creek Park on a new bridge, replacing the existing pedestrian bridge. The trail would also be accommodated on the bridge or on an adjacent bridge. A trail connection to the Rock Creek Trail would be provided east of the bridge. The alignment would continue on the Georgetown Branch right-of-way until the CSX corridor at approximately Kansas Avenue.

At this point, the alignment would turn southeast to run parallel and immediately adjacent to the CSX tracks on a new exclusive right-of-way. The trail would parallel the transitway, crossing the transitway and the CSX right-of-way east of Talbot Avenue on a new structure and continuing on the north side of the CSX right-of-way. The transitway would continue on a new roadway between the CSX tracks and Rosemary Hills Elementary School and continue past the school. The transitway would cross 16th Street at -grade, where a station would be located. The transitway would continue parallel to the CSX tracks to Spring Street where it would connect to Spring Street and turn to cross over the CSX tracks on Spring Street. The alignment would continue on Spring Street to 2nd Avenue where it would turn east. Buses would operate in shared lanes on Spring Street and Second Avenue.

Low Investment BRT would cross Colesville Road at-grade and continue up Wayne Avenue to Ramsey Street, where the buses would turn right to enter the SSTC at the second level.

The buses would leave the SSTC and return to Wayne Avenue via Ramsey Street. Low Investment BRT would continue east on Wayne Avenue in shared lanes. After crossing Sligo Creek Parkway, the alignment would operate in shared lanes.

At Flower Avenue, the alignment would turn left (south) onto Arliss Street, operating in shared lanes to Piney Branch Road. At Piney Branch Road, the alignment would turn left to continue in shared lanes to University Boulevard.

Low Investment BRT would follow University Boulevard to Adelphi Road. The lanes on University Boulevard would be shared. At Adelphi Road, the alignment would enter the University of Maryland campus on Campus Drive. The alignment would follow the Union Drive extension, as shown in the University of Maryland Facilities Master Plan (2001-2020), through what are currently parking lots. The alignment would follow Union Drive and then Campus Drive through campus in mixed traffic and the main gate to US 1.

Low Investment BRT would operate on Paint Branch Parkway to the College Park Metro Station in shared lanes. The alignment would then follow River Road to Kenilworth Avenue in shared lanes. Along Kenilworth Avenue, the southbound alignment would be a dedicated lane, but northbound would be in mixed traffic.

The alignment turns east from Kenilworth Avenue on East West Highway (MD 410) and continues in shared lanes on Veterans Parkway. This alignment turns left on Annapolis Road and then right on Harkins Road to the New Carrollton Metro Station. The westbound alignment on Annapolis would be dedicated, but the eastbound lanes would be shared.

Alternative 4: Medium Investment BRT

Alternative 4, the Medium Investment BRT Alternative, is, by definition, an alternative that uses the various options that provide maximum benefit relative to cost. Most of the segments are selected from either the Low or High Investment BRT Alternatives.

This alternative follows a one-way counter-clockwise loop from the Georgetown Branch right-of-way onto Pearl Street, East West Highway, Old Georgetown Road, Edgemoor Lane, and Woodmont Avenue and from there onto the Georgetown Branch right-of-way under the Air Rights Building. The buses stop at both the existing Bethesda Metro Station on Edgemoor Lane and at the new southern entrance to the Metro station under the Air Rights Building.

The alignment continues on the Georgetown Branch right-of-way with an aerial crossing over Connecticut Avenue and a crossing under Jones Mill Road.

This alignment, and all others that use the Georgetown Branch right-of-way, includes construction of a hiker-biker trail between Bethesda and the SSTC.

The alignment would continue on the Georgetown Branch right-of-way until the CSX right-of-way. The alignment would cross Rock Creek Park on a new bridge, replacing the existing pedestrian bridge. The trail would also be accommodated on the bridge or on an adjacent bridge. The alignment would continue on the Georgetown Branch right-of-way until the CSX corridor at approximately Kansas Avenue. This segment of the alignment, from Jones Mill Road to the CSX corridor, would be the same for all the alternatives.

As with Low Investment BRT, this alternative would follow the CSX corridor on the south side of the right-of-way, but it would cross 16th Street and Spring Street below the grade of the streets, at approximately the same grade as the CSX tracks. The station at 16th Street would have elevators and escalators to provide access from 16th Street.

After passing under the Spring Street Bridge, Medium Investment BRT would rise above the level of the existing development south of the CSX right-of-way. East of the Falklands Chase apartments, Medium Investment BRT would cross over the CSX tracks on an aerial structure to enter the SSTC parallel to, but at a higher level than, the existing tracks.

After the SSTC, Medium Investment BRT would leave the CSX right-of-way and follow Bonifant Street at-grade, crossing Georgia Avenue, and just prior to Fenton Street turn north toward Wayne Avenue. The alignment would continue on Wayne Avenue in shared lanes with added left turn lanes to Flower Avenue and then Arliss Street. At Piney Branch Road, the alternative would turn left into dedicated lanes to University Boulevard.

Medium Investment BRT would be in dedicated lanes on University Boulevard with an at-grade crossing of the intersections. The alignment would continue through the University of Maryland campus in dedicated lanes on Campus Drive and then continue at grade in a new exclusive transitway through the parking lots adjacent to the Armory, behind the Visitors Center to Rossborough Lane.

Crossing US 1 at-grade, Medium Investment BRT would pass through the East Campus development on Rossborough Lane to Paint Branch Parkway. The alignment would continue on Paint Branch Parkway and River Road in shared lanes, as with Low Investment BRT. At Kenilworth Avenue, both lanes would be dedicated.

Turning left on East West Highway, Medium Investment BRT would be in dedicated lanes. As with Low Investment BRT, this alternative would travel in shared lanes on Veterans Parkway.

Medium Investment BRT would continue on Veterans Parkway to Ellin Road, where it would turn left into dedicated lanes to the New Carrollton Metro Station.

Alternative 5: High Investment BRT via Master Plan Alignment

The High Investment BRT Alternative is intended to provide the most rapid travel time for a BRT alternative. It would make maximum use of vertical grade separation and horizontal traffic separation. Tunnels and aerial structures are proposed at key locations to improve travel time and reduce delay. When operating within or adjacent to existing roads, this alternative would operate primarily in dedicated lanes. Like Medium Investment BRT, this alternative would serve the Bethesda Station both at the existing Bethesda bus terminal at the Metro station and at the new south entrance to the Metro station beneath the Apex Building.

High Investment BRT would follow a one-way loop in Bethesda from the Master Plan alignment onto Pearl Street, then travel west on East West Highway and Old Georgetown Road into the Bethesda Metro Station bus terminal, exit onto Woodmont Avenue southbound, and then continue left under the Air Rights Building to rejoin the Georgetown Branch right-of-way. Elevators would provide a direct connection to the south end of the Bethesda Metro Station in the tunnel under the Air Rights Building.

High Investment BRT would be the same as Medium Investment BRT until it reaches the CSX corridor. As with the Low and Medium Investment BRT Alternatives, this alternative would follow the CSX corridor on the south side of the right-of-way, but it would cross 16th Street and Spring Street below the grade of the streets, at approximately the same grade as the CSX tracks. The station at 16th Street would have elevators and escalators to provide access from 16th Street.

The crossing of the CSX right-of-way would be the same as for Medium Investment BRT. From the SSTC, High Investment BRT would continue along the CSX tracks until Silver Spring Avenue, where the alignment would turn east entering a tunnel, passing under Georgia Avenue, and turning north to Wayne Avenue. The alignment would return to the surface on Wayne Avenue near Cedar Street. It would continue on Wayne Avenue in dedicated lanes, crossing Sligo Creek Parkway, and entering a tunnel approximately half-way between Sligo Creek and

Flower Avenue, then turning east to pass under Plymouth Street, crossing under Flower Avenue, and emerging from the tunnel on Arliss Street.

High Investment BRT would be the same on Piney Branch Road and University Boulevard except that the alignment would have grade-separated crossings over New Hampshire Avenue and Riggs Road.

Approaching University of Maryland, the alignment would cross under Adelphi Road. After Adelphi Road, the alignment would follow Campus Drive and turn onto the proposed Union Drive extended. The alignment would enter a tunnel while on Union Drive, prior to Cole Field House, and pass through the campus under Campus Drive. After emerging from the tunnel east of Regents Drive, the alignment would be the same as Medium Investment BRT, until Paint Branch Parkway.

The alignment would continue east on Paint Branch Parkway in dedicated lanes, except under the CSX overpass, to the College Park Metro Station. The alternative would then follow River Road in dedicated lanes. The alignment would be dedicated on these roadways, except under the CSX Bridge on Paint Branch Parkway.

From River Road (also in dedicated lanes) near Haig Drive, the alignment would turn right and enter a tunnel heading south, roughly parallel to Kenilworth Avenue. Near East West Highway (MD 410), the alignment would turn left and continue in the tunnel under Anacostia River Park. The alignment would transition to a surface alignment west of the Kenilworth Avenue and East West Highway intersection. The alternative would follow East West Highway in dedicated lanes.

High Investment BRT would turn right down Veterans Parkway in dedicated lanes. Unlike Medium Investment BRT, this alignment would cross under Annapolis Road before continuing on to Ellin Road.

Alternative 6: Low Investment LRT

The Low Investment LRT Alternative would operate in shared and dedicated lanes with minimal use of vertical grade separation and horizontal traffic separation. All LRT Alternatives would serve only the south entrance of the Bethesda Station and would operate there in a stub-end platform arrangement.

Low Investment LRT would begin on the Georgetown Branch right-of-way near the Bethesda Metro Station under the Air Rights Building. The hiker-biker trail connection to the Capital Crescent Trail would not be through the tunnel under the Air Rights Building, but rather through Elm Street Park on existing streets. The terminal station would be the Bethesda Metro Station with a connection to the southern end of the existing station platform.

After emerging from under the Air Rights Building, the transitway would follow the Georgetown Branch right-of-way, crossing Connecticut Avenue at-grade and crossing under Jones Mill Road.

Between approximately Pearl Street and just west of Jones Mill Road, the trail would be on the north side of the transitway; elsewhere it would be on the south side.

The segment from Jones Mill Road to Spring Street in the CSX corridor would be the same as for Low and Medium Investment BRT.

After crossing Spring Street, Low Investment LRT would be the same as the Medium and High Investment BRT Alternatives.

Low Investment LRT would be the same as Medium Investment BRT from the SSTC to Bonifant Street to Wayne Avenue.

Turning right, Low Investment LRT would continue at-grade on Wayne Avenue in shared lanes, crossing Sligo Creek Parkway and entering a tunnel from Wayne Avenue to pass under Plymouth Street. As with High Investment BRT, the alignment emerges from the tunnel on Arliss Street.

The Low Investment LRT Alternative would then follow Piney Branch Road and University Boulevard at-grade in dedicated lanes. In keeping with the low investment definition of this alternative, the major intersections of New Hampshire Avenue and Riggs Road would not be grade-separated.

As this alternative approaches Adelphi Road, the grade of the existing roadway is too steep for the type of LRT vehicles being considered. For this reason, the transitway would cross the intersection below grade.

At Adelphi Road, the alignment would enter the University of Maryland campus on Campus Drive. The alignment would follow the same alignment to the College Park Metro Station as described for Medium Investment BRT.

From the College Park Metro Station to the terminus at the New Carrollton Metro Station, Low Investment LRT would be in dedicated lanes on River Road. On Kenilworth Avenue, the LRT would be in a dedicated lane southbound, but a shared lane northbound. On East West Highway, the LRT would be in dedicated lanes with shared left turn lanes and in shared lanes under Baltimore-Washington Parkway. On Veterans Parkway, the LRT is in dedicated lanes.

As with Low Investment BRT, this alignment turns left on Annapolis Road from Veterans Parkway and then right on Harkins Road to the New Carrollton Metro Station. The segments on Annapolis Road and Harkins Lane would be dedicated.

Alternative 7: Medium Investment LRT

Medium Investment LRT is the same as Low Investment LRT from Bethesda to the CSX corridor, except that the alignment would cross over Connecticut Avenue.

Along the CSX corridor, the alignment would be the same as High Investment BRT, grade-separated (below) at 16th and Spring Streets. The alignment would be the same as Medium and High Investment BRT and Low Investment LRT from Spring Street through the SSTC.

From the SSTC, the alignment would follow Bonifant Street in dedicated lanes to Wayne Avenue. On Wayne Avenue, this alterative would be in shared lanes with added left turn lanes. The alignment would be the same as Low Investment LRT until Paint Branch Parkway, where it would be in dedicated lanes, except under the CSX/Metro tracks at the College Park Metro Station, except for Paint Branch Parkway where it would be in dedicated lanes. The LRT follows River Road, Kenilworth Avenue, East West Highway, and Veterans Parkway in dedicated lanes. At the intersection of Veterans Parkway and Annapolis Road the LRT continues across Annapolis, turning left at Ellin Road still in dedicated lanes.

Alternative 8: High Investment LRT

Alternative 8, High Investment LRT, would be the same as the High Investment BRT Alternative, except for the Bethesda terminus. The alignment would begin just west of the tunnel under the Air Rights Building. The hiker-biker trail would follow the alignment through the tunnel under the Air Rights Building. Because of physical constraints, the trail would be elevated above the westbound tracks. The trail would return to grade as it approaches Woodmont Avenue. The terminal station would be the Bethesda Metro Station with a connection to the southern end of the existing station platform.

1.3.4. Design Options

North Side of CSX

This design option is based on the Georgetown Branch Master Plan. From the eastern end of the Georgetown Branch right-of-way, the alignment would cross under the CSX corridor and then continue down the north side. It would emerge from the tunnel near Lyttonsville Road in Woodside. The alignment would be below the grade of 16th Street, passing under the bridge, but providing a station at that location. It would also pass under the Spring Street Bridge but would begin to rise on an aerial structure over the CSX right-of-way 1,000 feet northwest of Colesville Road due to the location of the Metro Plaza Building. The aerial structure over the CSX right-of-way would provide the required 23-foot clearance from top of rail to bottom of structure. The alternative would enter the SSTC parallel to, but at a higher level than, the existing tracks.

South Side of CSX with a Crossing West of the Falklands Chase Apartments

This option would operate on the south side of the CSX, as described either at or below grade at 16th Street. The alignment would cross the CSX corridor between Spring Street and Fenwick Lane. This option would continue along the north side of the CSX right-of-way on an aerial structure over the CSX right-of-way 1,000 feet northwest of Colesville Road, due to the location of the Metro Plaza Building. The aerial structure over the CSX right-of-way would provide the required 23-foot clearance from top of rail to bottom of structure. The alternative would enter the SSTC parallel to, but at a higher level than, the existing tracks.

Silver Spring/Thayer Tunnel

This design option would begin at the SSTC where the alignment leaves the CSX corridor near Silver Spring Avenue. It would enter a tunnel on Silver Spring Avenue passing under Georgia Avenue and Fenton Street. At approximately Grove Street, the alignment would shift northward to continue under the storm drain easement and backyards of homes on Thayer and Silver Spring Avenues. The transitway would emerge from the tunnel behind the East Silver Spring Elementary School on Thayer Avenue and follow Thayer Avenue across Dale Drive to Piney Branch Road. If the mode selected were LRT, the grade of Piney Branch Road would require an aerial structure from west of Sligo Creek and Sligo Creek Parkway and would return to grade just west of Flower Avenue. This aerial structure requires that the road be widened. For this design option, a station would be located on Thayer Avenue where the alignment would emerge from the tunnel.

University of Maryland Campus via Preinkert Drive

Preinkert Drive is being evaluated as a design option for both BRT and LRT through the campus of University of Maryland. The alignment would run from the west on Campus Drive turning right onto Preinkert Drive where it would head southeast. The transitway would turn left to pass directly between LeFrak Hall and the South Dining Campus Hall and then northeast through the Lot Y parking lot. From there, the alignment would run east along Chapel Drive between Memorial Chapel and Marie Mount Hall and eventually would pass to the south of Lee Building at Chapel Fields. The alignment would continue onto Rossborough Lane, passing directly north of Rossborough Inn to cross US 1, and continues east through the East Campus development.

1.3.5. Stations and Station Facilities

Between 20 and 21 stations are being considered for each of the alternatives. Table 1-1 provides the stations for each of the Build Alternatives.

The design of the Purple Line stations has not been determined at this stage of the project; however, the stations would likely include the following elements: shelters, ticket vending machines, seating, and electronic schedule information. The stations would be located along the transitway and would be on local sidewalks or in the median of the streets, depending on the location of the transitway. Because both the BRT and LRT vehicles under consideration are "low floor," the platforms would be about 14 inches above the height of the roadway. The platforms would be approximately 200 feet long and between 10 and 15 feet wide, depending on the anticipated level of ridership at each particular station. No new parking facilities would be constructed as part of the Purple Line. Municipal parking garages exist near the Bethesda and Silver Spring Metro Stations, and transit parking facilities exist at the College Park and New Carrollton Metro Stations.

Additional kiss-and-ride facilities would be considered at the stations at Connecticut Avenue on the Georgetown Branch right-of-way and Lyttonsville. The SSTC, College Park Metro Station, and New Carrollton Metro Station already have kiss-and-ride parking facilities available and the Purple Line would not add more. It has been determined that kiss-and-ride facilities are not needed at the Takoma/Langley Transit Center.

Table 1-1: Stations by Alternative

Station	Low Invest. BRT	Medium Invest. BRT	High Invest. BRT	Low Invest. LRT	Medium Invest. LRT	High Invest. LRT
Bethesda Metro, North Entrance	Yes	Yes	Yes	N/A	N/A	N/A
Medical Center Metro	Yes	N/A	N/A	N/A	N/A	N/A
Bethesda Metro, South Entrance	N/A	Yes	Yes	Yes	Yes	Yes
Connecticut Avenue	Yes	Yes	Yes	Yes	Yes	Yes
Lyttonsville	Yes	Yes	Yes	Yes	Yes	Yes
Woodside/16th Street	Yes	Yes	Yes	Yes	Yes	Yes
Silver Spring Transit Center	Yes	Yes	Yes	Yes	Yes	Yes
Fenton Street	Yes	Yes	N/A	Yes	Yes	N/A
Dale Drive	Yes	Yes	Yes	Yes	Yes	Yes
Manchester Place	Yes	Yes	Yes	Yes	Yes	Yes
Arliss Street	Yes	Yes	Yes	Yes	Yes	Yes
Gilbert Street	Yes	Yes	Yes	Yes	Yes	Yes
Takoma/Langley Transit Center	Yes	Yes	Yes	Yes	Yes	Yes
Riggs Road	Yes	Yes	Yes	Yes	Yes	Yes
Adelphi Road	Yes	Yes	Yes	Yes	Yes	Yes
University of Maryland Campus Center	Yes	Yes	Yes	Yes	Yes	Yes
US 1	Yes	N/A	N/A	N/A	N/A	N/A
East Campus	N/A	Yes	Yes	Yes	Yes	Yes
College Park Metro	Yes	Yes	Yes	Yes	Yes	Yes
River Road	Yes	Yes	Yes	Yes	Yes	Yes
Riverdale Park	Yes	Yes	Yes	Yes	Yes	Yes
Riverdale Heights	Yes	Yes	Yes	Yes	Yes	Yes
Annapolis Road	Yes	Yes	Yes	Yes	Yes	Yes
New Carrollton Metro	Yes	Yes	Yes	Yes	Yes	Yes

1.3.6. Maintenance and Storage Facilities

LRT and BRT both require maintenance and storage facilities; however, the requirements in terms of location and size are not the same. LRT requires a facility located along the right-of-way while a BRT facility can be located elsewhere. Depending on the construction phasing and mode chosen, two maintenance facilities (one in Montgomery County and one in Prince George's County) are ideal.

The size of the facility depends on the number of vehicles required. A fleet of 40 to 45 LRT vehicles or 40 to 60 buses (including spares) would require approximately 20 acres. The Purple Line would also require storage for non-revenue vehicles and equipment such as: maintenance, supervisory, and security vehicles.

Activities at the maintenance facility would include:

- Vehicle Storage area (tracks for LRT)
- Inspection/Cleaning
- Running Repairs
- Maintenance/Repair
- Operations/Security
- Parking
- Materials/Equipment Storage

Two sites improve operations by providing services and storage near the ends of the alignment. It is possible to have one site provide the majority of the services and the other function as an auxiliary site.

Five potential sites were identified during the course of the alternatives analysis and were evaluated for environmental impacts. As part of the screening process three were eliminated from further consideration. These five sites are listed below:

- Lyttonsville – This is a maintenance facility on Brookville Road in Lyttonsville, currently used by Montgomery County Ride On buses and school buses. The Purple Line would require the use of some additional adjacent property.
- Haig Court – This site is located on River Road at Haig Court. It would require minimal grading, but is partly wooded, and is very close to the residential neighborhood of Riverdale which is also a historic district.
- North Veterans Parkway – This site is located on the north side of Veterans Parkway. This site is heavily wooded and includes steep grades.
- Glenridge Maintenance Facility – This site is located on the south side of Veterans Parkway near West Lanham Shopping Center. It is currently being used as a maintenance facility for Prince George's County Park vehicles.
- MTA New Carrollton property – This site is a parcel owned but the MTA on the east side of the New Carrollton Metro station. It is not particularly well located for use by the Purple Line because it would require the Purple Line to pass under or around the New Carrollton Metro Station.

The Lyttonsville site and the Glenridge Maintenance Facility were identified as the two sites most appropriate for maintenance and storage facilities for the project based on potential environmental effects and location. These two sites would provide sufficient capacity for either BRT or LRT operations; and are well located near either end of the alignment.

1.3.7. Traction Power Substations

Light rail's electric traction power system requires electrical substations approximately every 1.25 miles, depending on the frequency and size of the vehicles. These substations, which are approximately 10 feet by 40 feet, do not need to be immediately adjacent to the tracks. This

flexibility means the substations can be located to minimize visual intrusions and can be visually shielded by fencing, landscaping, or walls, or can be incorporated into existing buildings. The number and location of these substations will be determined during the preliminary engineering phase of project development.

2. Estimating Methodology

The methodology used for preparing capital cost estimates has been developed in general accordance with FTA guidelines for estimating capital costs. Part of the FTA guidelines call for cost estimates to be prepared and reported using the latest revision of the FTA's Standard Cost Categories (SCC). In the estimates, cost components for the various alternatives are developed and summarized into the SCC. These cost categories form the basis for the format and structure used for the capital cost detail and summary sheets developed for this project as well. The SCC is described in Section 2.2.

2.1. General Approach

Each of the alternatives that have been developed have conceptual engineering drawings, typical sections, station locations and/or written descriptions prepared that provide needed definition for each of the major construction cost components. These planning documents form the basis for the identification of the various facility elements used to prepare the capital cost estimates. These facility elements can be classified into one of two broad groups, either typical or non-typical facilities. Typical facility costs are developed for elements that can be defined by a typical cross-section and applied over a given length of alignment or based on a conceptual scope of work developed as appropriate for a specific typical facility. The typical facility composite unit cost is then developed by combining the costs for all of the individual construction elements applicable to a given typical section or facility and creating a representative composite unit cost. Typical sections or facilities were developed for each of the alternatives. Non-typical facility costs were developed based on conceptual engineering and design related to the unique facility under consideration. For those non typical facilities elements that are necessary for overall system operation, but whose costs cannot be allocated to a specific geographic segment of the system (e.g., vehicles, maintenance and storage facility, etc.), these costs are included in at the summary level. After details were prepared for both typical and non-typical facilities and the cost data developed, it was put into a cost stream format based on the stationing of the alignment for each alternative. This format relates the cost directly to the plan and profile drawings and assists in summarizing costs, as well as in the analysis of various alignment segments.

2.2. Capital Cost Categories

In accordance with the latest version of the FTA's SCC, the capital cost components of the various alternatives were classified into the following cost categories.

10	Guideway and Track Elements
20	Station, Stops, Terminals, Intermodal
30	Support Facilities: Yards, Shops, Administration Buildings
40	Sitework & Special Conditions
50	Systems
60	ROW, Land, Existing Improvements

70 Vehicles
80 Professional Services
90 Unallocated Contingency
100 Finance Charges

The following provides a brief descriptions of these cost categories and their constituent elements.

2.2.1. Guideway and Track Elements

Guideway and track elements are portions of the transit system that can be assigned costs at a fairly aggregate level with an acceptable level of accuracy. Most commonly these are line portions of each alignment that can be represented by typical cross sections. Guideway and track elements are subdivided into a number of sub-categories which are described below.

Guideway

The guideway cost category is made up of a number of sub-categories. The following is a list of these sub-categories:

10.01 Guideway: At-grade exclusive right-of-way
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)
10.03 Guideway: At-grade in mixed traffic
10.04 Guideway: Aerial structure
10.05 Guideway: Built-up fill
10.06 Guideway: Underground cut & cover
10.07 Guideway: Underground tunnel
10.08 Guideway: Retained cut or fill

These categories can be described by three primary types of construction, at-grade construction, aerial structure construction, and retained cut or fill/underground construction. For rail based technologies, this cost category includes all of the foundational construction elements up to the point where track construction typically begins and is often described as the subballast level. For bus based technologies, this cost category includes all of the foundational construction elements up to and including the running surface. The guideway cost estimates are based on parametric unit cost information specifically developed for each construction type. In general, all of the parametric guideway cost estimates provide for the following construction elements as appropriate:

- At-Grade Construction
  - Traffic control
  - Site work, including clearing, demolitions and earthwork
  - Erosion control and soil stabilization
  - Drainage systems for the guideway
  - Catenary pole foundations (Rail only)

- Concrete base slab for embedded guideway construction (Rail only)
- Subgrade preparation and subballast for ballasted guideway construction (Rail only)
- Allowance for systems ductbanks, corrosion control, and signage
- Roadway paving, barriers and striping (Bus only)

- Aerial Structures Construction
  - Traffic control
  - Site work, including demolition and clearing
  - Structural excavation and backfill
  - Foundation support including piling, drilled piers, etc.
  - Concrete footings, columns, pier caps, and superstructure
  - Steel reinforcement
  - Pedestrian access and protection
  - Allowance for systems ductbanks, corrosion control, and signage
- Retained Cut or Fill/Underground Construction
  - Traffic control
  - Site work, including demolition, clearing and restoration
  - Structural excavation and backfill or tunnel excavation
  - Temporary excavation support and dewatering
  - Concrete footings, slabs, retaining or structural walls and roof slabs or tunnel lining
  - Ventilation, drainage, fire protection, lighting
  - Allowance for systems ductbanks, corrosion control, and signage
  - Roadway paving and striping (Bus only)

Separate composite unit prices were developed for various increments in the height or depth of typical sections for embankment, retained cut or fill, and aerial structures.

Track (Rail Only)

The track cost categories include the running rails, ties, ballast, direct fixation concrete plinth, embedded track and special track components (turnouts, crossovers, etc.) associated with the guideway construction. The following is a list of the sub-categories associated with this cost category:

10.09 Track: Direct fixation
10.10 Track: Embedded
10.11 Track: Ballasted
10.12 Track: Special (switches, turnouts)
10.13 Track: Vibration and noise dampening

Track unit costs are divided into the following three types of construction:

- Direct-fixation track (track fixed onto a structural concrete slab, typically used in aerial or underground construction)
- Embedded or paved track (typically used in street-running situations)
- Ballasted track (typically used in at-grade or retained cut or fill construction)

The cost of constructing the supporting subgrade, subballast, or concrete supporting structure will normally be included in the guideway cost category. The standard rail for ballasted and direct-fixation track is continuous welded 115RE rail. For ballasted track, the unit cost includes rail, concrete ties with ballast, rail welding, rail fasteners, and rail anchors. For direct fixation track the rail is attached on a second-pour concrete plinth pad with a direct fixation rail fastener. The unit cost for embedded track includes rail, rail welding, reinforced concrete track slab, structural running surface, coated tie bars, and rail embedding materials. Track drains for embedded track are included in the guideway unit costs. Special track typically includes single and double turnouts and crossovers, wyes, pocket tracks, and rail crossings. The costs for special trackwork are applied on a per unit basis at specific locations if this information is available or as a percentage allowance calculated on the cost of the various track cost categories. The track costs for the storage or maintenance shop facility are included in cost category 30 Support Facilities.

2.2.2. Stations, Stops, Terminals, Intermodal

Station costs represent the fixed facilities and amenities for transit stations. The passenger station cost estimates are based on parametric unit prices developed for each type of station facility anticipated. The station cost category is made up of a number of sub-categories. The following is a list of these sub-categories:

20.01 At-grade station, stop, shelter, mall, terminal, platform
20.02 Aerial station, stop, shelter, mall, terminal, platform
20.03 Underground station, stop, shelter, mall, terminal, platform
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.
20.05 Joint development
20.06 Automobile parking multi-story structure
20.07 Elevators, escalators

Also included in this cost category are structured parking lots and elevators/escalators that are adjacent to and part of a passenger station. Generally, all the parametric station cost estimates include the following construction elements:

- At-grade Stations
  - Station types were either side or center platform. Platform lengths were based on the number and length of transit cars that will make up a train determined from an operational analysis.
  - Site work, including clearing, demolition, and excavation
  - Grading, borrow fill, and soil stabilization

- Concrete footings, walls, and platform slab
- Canopy(s) covering a portion of the platform
- Architectural surface treatment of platform with pavers and tactile warning strips.
- Allowance for station furnishings and signage.
- Lighting, electrical, and mechanical allowances

- Aerial or Underground Stations
  - Station types were either side or center platform. Platform lengths were based on the number and length of transit cars that will make up a train determined from an operational analysis.
  - Site work, including clearing, demolition, and excavation
  - Grading, borrow fill, and soil stabilization
  - Concrete footings, columns, pier caps, superstructure, platform slabs, steel reinforcement, and pedestrian barrier
  - Canopy(s) covering a portion of the platform
  - Architectural surface treatment of platform with pavers and tactile warning strips.
  - Allowance for station furnishings and signage.
  - Lighting, electrical, and mechanical allowances
  - Vertical circulation elements (i.e., stairs, or structural elements to support elevators and escalators. Equipment purchase and installation is included under item 20.07)
  - Equipment rooms or operator welfare structures
- Automobile Parking Multi-story Structure
  - Traffic control
  - Site work, including demolition and clearing
  - Structural excavation and backfill
  - Foundation support including piling, drilled piers, etc.
  - Concrete footings, columns, pier caps, decking and superstructure
  - Steel reinforcement
  - Pedestrian access and protection
  - Lighting, electrical, and mechanical allowances

Pedestrian access, artwork, and surface parking lots associated with passenger stations are accounted for under other cost categories described below..

2.2.3. Support Facilities: Yards, Shops, Administration Buildings

This cost category includes vehicle maintenance and storage buildings, trackwork for storage of rail vehicles, vehicle cleaning and painting facilities, office support areas, maintenance of way facilities, and general and major shop equipment. The following is a list of the sub-categories under this cost category:

30.01 Administration Building: Office, sales, storage, revenue counting
30.02 Light Maintenance Facility
30.03 Heavy Maintenance Facility
30.04 Storage or Maintenance of Way Building
30.05 Yard and Yard Track

2.2.4. Sitework and Special Conditions

The development of a functional transit system often requires that a number of ancillary mitigation requirements that may or may not be directly related to the transit system service be addressed. These sitework and special conditions often include items that cannot be adequately represented by a typical cross-section because of complexity, uncertain alignment, special site conditions, or other unique circumstances. The sitework and special condition cost category is sub-divided into the following:

40.01 Demolition, Clearing, Earthwork
40.02 Site Utilities, Utility Relocation
40.03 Hazardous materials, contaminated soil removal/mitigation, ground water treatments
40.04 Environmental mitigation, e.g. wetlands, historic/archaeological, parks
40.05 Site structures including retaining walls, sound walls
40.06 Pedestrian / bike access and accommodation, landscaping
40.07 Automobile, bus, van accessways including roads, parking lots
40.08 Temporary Facilities and other indirect costs during construction

Demolition

This cost category generally includes costs for the demolition of special features such as buildings (if not included as part of right-of-way), large structures (bridges or retaining walls), existing railway trackbeds or other existing features that fall outside of the guideway construction envelope.

Utility Relocations

Generally one of the largest cost elements within this cost category is the relocation of existing utilities from within the guideway construction envelope. These relocations can include both public and private utilities, subject to any agreements that may apply to franchised utilities that exist within public right-of-ways. Typically utility relocation information is not available during the AA/DEIS phase of project development; therefore, several levels of utility relocation allowances with average unit costs based on historical experience have been defined. These levels were applied along the various transit alignments based on an evaluation of the complexity of the existing utilities and the scope of utility relocations anticipated.

Hazardous Material and Environmental Mitigation

Any special hazardous material or environmental mitigation costs, such as contaminated soil or ground water, wetlands mitigation, etc. would be included under this category. Typically

engineering and design information is not available during the AA/DEIS phase of the project on which to develop a quantity based cost estimate. Therefore, several levels of hazardous material and environmental mitigation allowances, based on historical experience, with average unit costs per route foot were established and used.

Site Structures

This cost category typically includes structures such as retaining walls, sound walls, etc, that are outside of the guideway construction envelope. Structures such as retaining walls for retained cut or fill guideway and bridge or aerial structure used for aerial guideway are included in cost category 10 Guideway and Track Elements. For projects in the AA/DEIS phase of development, sites structures costs are typically applied on a cost per square foot basis.

Pedestrian Access, Landscaping

Typically pedestrian access and landscaping information is developed to a limited degree during the AA/DEIS phase of project development; therefore, several levels of pedestrian access and landscaping allowances with average unit costs based on historical experience were utilized. Landscaping costs associated with parking facilities are included in the composite cost developed for those particular items and included in other cost categories.

Automobile Accessways, Parking Lots

This cost category can include new and reconstructed roadways, streets, surface parking areas, sidewalks, curbs and gutters, and related roadway facilities associated with construction of the rail or bus guideway. Roadway and parking area cost estimates were based on parametric unit costs applied to quantities developed on location specific data taken from the conceptual engineering alignment plans.

Temporary Facilities

This cost category can include costs for mobilization, demobilization, project phasing; temporary construction associated with weather, construction easements, or temporary site access and mitigate. For the AA/DEIS phase of project development, these costs are included as a percentage allowance mark-up in the other cost categories.

2.2.5. Systems

This cost category includes the following cost elements.

50.01 Train control and signals (Rail only)
50.02 Traffic signals and crossing protection
50.03 Traction power supply: substations (Rail only)
50.04 Traction power distribution: catenary and third rail (Rail only)
50.05 Communications
50.06 Fare collection system and equipment
50.07 Central Control

Train Control & Signals (Rail Only)

This cost category includes the signaling and control systems required for safe and efficient operations of the transit technology. It includes automatic wayside signals in areas of separate right-of-way, automatic train stop circuitry in the track and vehicles, block supervision where required for street operation.

Traffic Signals & Crossing Protection

For transit systems that are constructed to operate either within existing streets or with at-grade crossing of existing roadways, there is often a need for modifying existing traffic signals or constructing new traffic signals or other crossing protection. This cost category includes the signaling and control systems required for items such as vehicle and pedestrian signals, traffic signal pre-emption, and protection at hazardous guideway/highway at-grade crossings (flashing lights, bells, and signs).

Traction Power Supply: Substations (Rail Only)

The traction power supply system provides the power for all train operations. This cost category consists primarily of the civil and architectural infrastructure along with the mechanical and electrical equipment needed to construct traction power substations.

Traction Power Distribution (Rail Only)

The traction power distribution system is based on a direct current (dc) overhead contact system (OCS). The OCS consists primarily of support poles, brackets arms and hardware, cables, and messenger cable. Signal and communication power needs are also included in the traction power costs. Power supply or distribution for buildings associated with the maintenance and storage facilities or power for passenger stations is not included in this cost category.

Communications

The communications system provides the necessary subsystems to support the total operational requirements of the transit technology. The communications system costs provide for subsystems such as two-way radios, public address, telephone systems, variable message signs, interfaces to the fare collection and ticket vending equipment and equipment for the hearing impaired, etc.

Fare Collection

Costs for elements in this category are based upon a self-service, barrier-free, proof of payment fare collection system. Ticket vending machines (TVM) costs shall be based on a microprocessor controlled coin or bill accepting machine capable of optionally accepting credit, debit, and stored value cards. The unit cost for fare collection includes all equipment costs, and installation costs. The hardware includes provisions for fare vending facilities and access for the physically handicapped.

Central Control

The cost category includes all of the civil, structural, architectural, mechanical, electrical, and systems costs for providing for the remote monitoring of train operations, track conditions, substations, and station support facilities. The need and appropriateness for a central control facility is dependent on the operational analysis and assumptions that were made for the given transit technology.

2.2.6. ROW, Land, Existing Improvements

This cost category covers all land acquisition and acquisition related costs required to obtain various real property needed for the construction, operation, and maintenance of the proposed alignments. Costs include the fee acquisition of permanent and temporary easements, relocation costs, business damages and other miscellaneous costs. Sub-categories include:

60.01 Purchase or lease of real estate
60.02 Relocation of existing households and businesses

2.2.7. Vehicles

This cost category is generally subdivided into revenue (identified by transit mode) and non-revenue vehicles (where non-revenue vehicles include maintenance-of-way vehicles, and agency trucks and automobiles). During the AA/DEIS phase of project development the unit costs for vehicles will typically include costs for engineering, procurement, spare parts, etc. and is based on historical data from recent transit projects. This cost category is sub-divided into the following:

70.01 Light Rail (including Streetcar)
70.02 Heavy Rail
70.03 Commuter Rail
70.04 Bus
70.05 Other
70.06 Non-revenue vehicles
70.07 Spare parts

2.2.8. Professional Services

This cost category includes allowances for preliminary engineering, final design, project and construction management, agency program management, project insurance, surveys and testing, and start-up costs. These allowances are computed by applying a percentage to the total construction cost estimated for each cost category (excluding right-of-way and vehicle costs). Right-of-way and vehicle costs typically are calculated to include the management and administration costs associated with these activities and are therefore excluded from the calculation of professional services. The following is a list of the percentage multipliers being applied to the total construction costs to cover these items:

80.01	Preliminary Engineering	4%
80.02	Final Design	6%
80.03	Project Management for Design and Construction	5%
80.04	Construction Administration & Management	8%
80.05	Insurance	2%
80.06	Legal; Permits; Review Fees, etc.	3%
80.07	Surveys, Testing, Investigation, Inspection	3%
80.08	Start up	1%

2.2.9. Unallocated Contingency

Unallocated contingency is similar in nature to allocated contingency in that it is primarily applied as an allowance for unknowns and uncertainties due to the level of project development completed. The major difference is that allocated contingencies are intended to address uncertainties in the estimated construction, right-of-way, and vehicle costs that typically occur as the amount of engineering and design information advances, while unallocated contingencies are typically much broader in nature and often address changes in the project scope and schedule. Unallocated contingency was calculated as 5 percent of the total of cost categories 10 to 50 and then 2 percent of cost categories 60 to 80.

3. Cost Data

Cost data was developed using several sources and was comparable to those seen in the Metro Washington region for similar types of construction. The cost data was refined and updated throughout the subsequent design phases. The first task in developing the cost data is to prepare a list of work items that are typical based on the scope of work for the transit technology. Unit costs for these work items will then be estimated using various cost references and historical cost data and was compiled into a database format to form a Unit Cost Library (UCL). The key elements of the UCL are an Item Code, Item Description, Unit of Measure, and Unit Cost. This UCL summary will include, but will not be limited to, those items typically found in a project of this scope. All unit costs include contractor's direct construction cost plus all taxes, general expense, overhead and profit. The unit costs do not include items such as engineering, construction management, owner's administrative costs and allowances for contingencies. These costs were included as percentage add-ons to the cost estimate under other cost categories.

3.1. Sources of Cost Data

Unit costs to be included in the estimates were derived from multiple resources. Unit cost associated with civil and structural construction elements that are generally common to both transit and highway construction projects will use cost data found in the Maryland Department of Transportation, State Highway Administration (SHA) Item Average Unit Costs. For those unit costs associated with trackwork, stations and systems construction elements that are principally found on transit construction projects; cost data from recent construction bids from other transit systems throughout the United States were compared and adjusted to specific project needs. Unit cost data was obtained from historical cost estimating database of completed projects and their respective historical bid information was used. All cost resources were adjusted to reflect current local rates and conditions. Adjustments for differences in geographic locations uses a factor calculated from the current city cost index for the source location and the Washington D.C. - Baltimore area, as published by RS Means, a construction industry cost data resource. Adjustments for differences between the published date of any historical cost data and the current base year of the cost estimates will use an escalation factor calculated using the Producer Price Index for Heavy and Highway Construction (PPI) value published by the US Bureau of Labor Statistics (BLS) for each of the periods in question.

4. Cost Estimating Assumptions

The basic assumptions and criteria used in developing the cost data are as follows:

- The estimates were prepared using second quarter 2007 dollars.
- No premium time on labor costs was included.
- Adequate experienced craft labor is available.
- Normal productivity rates as historically experienced were utilized.
- Compatible trade agreements exist in the region.
- No strike impacts will be experienced by the project.
- There are sufficient experienced contractors available to perform the work.
- Normal South Florida area weather impacts to construction schedule and costs.
- Existing state of the art construction technology will be utilized.

4.1. Allocated Contingency

Contingency is typically included in an estimate as an allowance for the level of engineering design completed or to address imperfections in estimating methods that are associated with a project's development stage. Contingency, in the statistical sense, is the estimated percentage by which a calculated value may differ from its true or final value. The contingency allowance is used to account for those items of work (and their corresponding costs) which may not be readily apparent or cannot be quantified at the current level of design, such as unknown project scope items, or a potential project change resulting from public/political issues or environmental or technical requirements. For the purposes of this estimating program, contingency was assigned into two major categories – allocated and unallocated.

Allocated contingency was used based on the level of design information available for individual items of work, as well as the relative difficulty in establishing unit prices for these items. The allocated contingency allowance, in the range of 10 percent to 50 percent, was allocated according to the FTA construction or procurement cost categories. The exact percentage selected for each cost category is based on professional judgment and experience related to the cost variability typically seen for items of work within a particular cost category. The percentages shown in Table 4-1 are the values that will normally be used; however, slightly higher or lower values may be used if a project specific condition warrants.

Table 4-1: Allocated Contingency Percentages for Planning Estimates

FTA Category No.	Description	Allocated Contingency Percentage
10	Guideway and Track Elements	

	Guideway Elements (Except Underground)	25
	Guideway Elements (Underground)	30
	Track Elements	20
20	Stations, Stops, Terminals, Intermodals	20
30	Support Facilities: Yards, Shops, Admin Buildings	20
40	Sitework and Special Conditions	
	Demolition, Clearing, Earthwork	25
	Site Utilities, Utility Relocation	30
	Hazardous Materials, Contaminated Soil Removal/Mitigation, Groundwater Treatments	30
	Environmental Mitigation, e.g., Wetlands, Historic/ Archaeological, Parks	30
	Site Structures including Retaining Walls, Sound Walls	25
	Pedestrian/Bike Access and Accommodation, Landscaping	25
	Automobile, Bus, Van Access including Roads, Parking Lots	25
50	Systems	20
60	Right-of-Way, Land, Existing Improvements	50
70	Vehicles	10

4.2. Estimating Procedures

Capital costs are to be developed for each alignment by utilizing both "bottom up" and "top down" estimating approaches. Each approach is described in the following sections.

4.2.1. Bottom Up and Top Down Approaches

The majority of composite unit costs utilized for the capital cost estimates were developed based on a "bottom up" approach. In this approach, the cost of major work elements, as generally defined by typical sections, is determined by totaling the cost of their component parts. Sufficient engineering data is required to reasonably define the scope of work and quantities represented by each typical section. Unit prices, as reflected in the UCL, are developed and combined with the estimated quantities to determine the costs for each major category of work, such as guideway elements, stations, and system elements. The advantage of this approach is the ability to adjust costs for minor changes of scope, as well as the higher confidence level inherent in a bottom up estimate. The disadvantage is the level of engineering and estimating effort required to produce a bottom up estimate and the additional time required to adjust the estimate for revisions.

In the "top down" method, an order-of-magnitude or composite cost is determined, usually derived from data from similar projects, and this cost is used directly or converted to some component unit measure (such as $ per vehicle, $ per route feet, etc.) and applied as a unit cost. This method is faster than the bottom up approach; and, for certain technologies and alignment alternatives, the resulting comparative cost estimates can be sufficiently accurate. This method is used as infrequently as possible. As an example, the cost for transit vehicles is generally derived from data from other projects and is based on a total procurement price that is divided by the number of vehicles purchased and therefore is a "top down" unit cost. Other systemwide elements, such as traction power distribution may also use "top down" unit costs. Historical bids for traction power distribution contracts, which typically would be made up of a hundred or more construction elements and unit prices are used to develop composite unit cost on a dollar per route foot basis. The estimating methodology selected to estimate the alternatives capital cost will use a combination of the two basic procedures described above. The bottom up approach is used to develop parametric unit costs for elements for which discrete quantities can be developed. This approach is typically used for the following cost categories:

10 Guideway and Track Elements
20 Station, Stops, Terminals Intermodal
30 Support Facilities: Yards, Shops, Administration Buildings

The top down approach is typically used to estimate costs for the following categories:

40 Sitework and Special Conditions
50 Systems
60 ROW, Land, Existing Improvements
70 Vehicles

4.2.2. Facilities Costing Procedure

The typical facilities costing procedure begins with a typical cross section or sketch of a typical facility such as at-grade guideway. In most cases these typical facilities represent an element which is used more than once in the construction of the alignment. For elements that can be defined by a typical section, unit quantities (such as cubic yards of excavation, or lineal feet of track) required to construct one route foot of the section are computed and unit costs are applied to determine a base cost for constructing a typical route foot. This base cost is augmented by allowances as needed to provide a complete parametric unit cost. To the extent possible, transit guideway sections were estimated by using typical sections. For certain cost category items a site-specific, non-typical section will require that a unique cost estimate be prepared. For a non-typical facility, the quantities of construction units (such as cubic yards of concrete, or lineal feet of piping required to construct a complete facility are computed and unit costs are applied to determine a base cost for constructing the non-typical facility. This base cost is augmented by allowances as needed to provide a complete parametric unit cost. Special facilities, such as complex structures, major utilities, or special station amenities, were estimated in a similar fashion as the typical facilities. Sketches were prepared when practical. In some cases, historical data may be applied if available. In technically challenging problems, some basic data

gathering and design may be required to determine an appropriate cost. Once a cost is determined, it was assigned to its appropriate cost category.

4.2.3. Organization and Management of Cost Data

The preparation of cost estimates for the alternatives involves development of a cost information database of considerable size and complexity. Procedures were developed that streamline the estimating process and allow a thorough review and checking of the cost data in order to avoid clerical and mathematical errors. The proposed procedures include:

- Use of proven computer software for data processing and storage; and
- Development of data in a cost-stream format and subsequently summarizing to higher levels.

All capital cost estimates for the Purple Line Corridor were prepared using Microsoft Excel. The organization of the cost data into a cost stream format allows a thorough review and checking of the data with respect to the plan and profile drawings.

4.2.4. Cost Estimating Results Format

The cost estimating methodology uses three levels of cost presentation to provide cost information results in increasing levels of detail. The costs were developed by alignment and by segment, with each alignment consisting of several segments. The estimating process originates with the Segment Level Cost Estimates, the lowest level of detail summary, which are used to develop Alignment Level summaries. This approach facilitates responses to different questions and enables users to focus only on the level of detail that meets their needs. These levels provide an efficient and logical flow of data from the most detailed level to the summary level.

The Segment level Cost Estimate is the most detailed level and gives the cost breakdown by category for a single alignment segment. It presents the quantity take-offs in a cost stream format, which keys each element of the estimate to specific locations by stationing. This level relates the quantity take-offs to the plan and profile drawings, helping to document what has been included, thus making reviewing and checking easier than a traditional construction estimate by units. This data is then rolled up to summary level spreadsheets. The summary level Cost Estimate gives cost breakdowns by category for each segment within an alignment. It is at this level that the estimate add-ons were applied with the appropriate percentages assigned to the various cost categories. The summary will provide a total project cost for a single alignment.

4.2.5. Cash Flow and Escalation

The current FTA SCC excel workbook includes several worksheets that assist in the preparation of a cash flow projection for the project as well as the calculation of the Year of Expenditure (YOE) value of the total project cost. The preparation of the cash flow projection for the project involves developing a conceptual project schedule for each of the standard cost categories that includes a start date, by month and year, and an estimated duration in months. Using formulas for standard output production S-curves, the project cost for each of these cost categories is distributed according to the project schedule and forms the cash flow projection. Once the cash

flow projection is developed, the results are placed into the SCC inflation worksheet. Escalation factors for this worksheet are selected based on a review of published construction cost escalation projections during the assumed project durations.

4.2.6. Annualized Cost Factors

The evaluation of the cost effectiveness of an alternative requires that all evaluation measure (capital costs, operations and maintenance costs, non-Federal funding and user benefits) be expressed in annual terms. Since capital costs are estimated as a total expenditure of constant (base year) dollars, an annual payment is computed that is equivalent to what is in reality a one-time expenditure of capital funds. For each capital cost item, the annualized equivalent is computed through application of the following annualization factor:

$$\text{Annualization Factor} = \frac{i \times (1+i)^n}{(1+i)^n - 1}$$

where i = discount rate; and

n = economic life.

The annualized cost of the line item is the total cost of that line item multiplied by its annualization factor. The summation of all annualized line item costs gives the overall annualized cost for the alternative. Table 4-2 contains a list of the various cost categories and their respective economic lifetime and annualization factors. These annualization factors have been determined based on a FTA-prescribed seven percent discount rate.

Table 4-2: Annualization Factors

Description		Lifetime (Years)	Annualization Factor
10.01	Guideway: At-grade exclusive right-of-way	125	0.070
10.02	Guideway: At-grade semi-exclusive (allows cross-traffic)	30	0.081
10.03	Guideway: At-grade in mixed traffic	20	0.094
10.04	Guideway: Aerial structure	80	0.070
10.05	Guideway: Built-up fill	80	0.070
10.06	Guideway: Underground cut & cover	125	0.070
10.07	Guideway: Underground tunnel	125	0.070
10.08	Guideway: Retained cut or fill	125	0.070
10.09	Track: Direct fixation	30	0.081
10.10	Track: Embedded	20	0.094
10.11	Track: Ballasted	35	0.077
10.12	Track: Special (switches, turnouts)	30	0.081
10.13	Track: Vibration and noise dampening	30	0.081
20.01	At-grade station, stop, shelter, mall, terminal, platform	70	0.071
20.02	Aerial station, stop, shelter, mall, terminal, platform	70	0.071

Table 4-2: Annualization Factors

Description		Lifetime (Years)	Annualization Factor
20.03	Underground station, stop, shelter, mall, terminal, platform	125	0.070
20.04	Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	70	0.071
20.05	Joint development	70	0.071
20.06	Automobile parking multi-story structure	50	0.072
20.07	Elevators, escalators	30	0.081
30.01	Administration Building: Office, sales, storage, revenue counting	50	0.072
30.02	Light Maintenance Facility	50	0.072
30.03	Heavy Maintenance Facility	50	0.072
30.04	Storage or Maintenance of Way Building	50	0.072
30.05	Yard and Yard Track	80	0.070
40.01	Demolition, Clearing, Earthwork	125	0.070
40.02	Site Utilities, Utility Relocation	125	0.070
40.03	Hazardous materials, contaminated soil removal/mitigation, ground water treatments	125	0.070
40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks	125	0.070
40.05	Site structures including retaining walls, sound walls	80	0.070
40.06	Pedestrian / bike access and accommodation, landscaping	20	0.094
40.07	Automobile, bus, van accessways including roads, parking lots	20	0.094
40.08	Temporary Facilities and other indirect costs during construction	100	0.070
50.01	Train control and signals	30	0.081
50.02	Traffic signals and crossing protection	30	0.081
50.03	Traction power supply: substations	50	0.072
50.04	Traction power distribution: catenary and third rail	30	0.081
50.05	Communications	20	0.094
50.06	Fare collection system and equipment	25	0.086
50.07	Central Control	30	0.081
60.01	Purchase or lease of real estate	125	0.070
60.02	Relocation of existing households and businesses	125	0.070
70.01	Light Rail	25	0.086
70.02	Heavy Rail	25	0.086
70.03	Commuter Rail	25	0.086
70.04	Bus	12	0.126
70.05	Other	12	0.126
70.06	Non-revenue vehicles	12	0.126
70.07	Spare parts	12	0.126

5. Estimate Limitations

A reoccurring issue in the estimation of capital cost during the conceptual phase of a project is the evaluation and treatment of uncertainty. Uncertainty can result in a "difference" between the estimated cost of a project as defined during the concept phase and the actual cost of the project that is ultimately implemented. Four potential sources of uncertainty are generally recognized.

- Changes in Project Scope
- Changes in Design Standards
- Incorrect Unit Cost/Quantity Assumptions
- Unforeseen Problems in Implementation

5.1. Changes in Project Scope

During the corridor study phase, preliminary decisions on project scope are made on such issues as vertical and horizontal alignment, degree of grade separation and other significant alignment items. As a project progresses through the various stages of evaluation many of the original project scope definitions that formed the basis of the cost estimate are updated or revised during the various screening of alternatives.

5.2. Changes in Design Standards

Similar to the broader uncertainties on project scope but generally more specific in nature, changes in design standard during later phases of project development can lead to changes in project cost. Examples of changes in design standards would be replacing high floor vehicles with low floor vehicles, using a more sophisticated signal system, or changing from a barrier free fare collection to fare gates, and so forth.

5.3. Incorrect Unit Cost / Quantity Assumptions

A variety of potential problems exist in the assumptions used in selecting unit cost or unit quantities. Issues that can affect the accuracy of unit cost include local demand for construction labor and its impact on wage rates, bid climate during the construction period and fluctuations in basic material prices. Errors in quantity assumptions are often related to changes in design standards as discussed above.

5.4. Unforeseen Problems in Implementation

Perhaps one of the largest sources of uncertainty is the difficulty in anticipating problems that will only be uncovered in later stages of project development. Areas that appear to be most susceptible are right-of-way acquisition, utility relocations, hazardous materials, and soil

conditions. The estimating methods described in Chapter 2 represent professionally accepted standards for preparing capital cost estimates to a level of accuracy that is consistent with the level of project definition. Accuracy is traditionally expressed as a +/- percentage range around the point estimate that has been produced. The percentage variance factors are greatest in the early stage of project definition and progressively decreases as project definition increases. For example, for typical transit projects, the expected accuracy range of an estimate prepared from final design documents is approximately +10/-5 percent. For projects at a level of project definition from 1 to 15 percent complete, the expected accuracy range is approximately +30/-25 percent.

One of the primary techniques used to address the uncertainties inherent in the estimating process at this phase of project development is the application of appropriate design allowances. The use and application of design allowance is further discussed in Chapter 4. As a project progresses through subsequent phases, the level of detail in the design will increase and the type, quantity and location of system elements can be better estimated. As that happens, the accuracy of the cost estimates will improve and the design allowance will decrease.

6. Representative Alignment Estimates

The Purple Line has several representative alignments currently under study. Table 6.1 presents the estimated capital costs, 2007 dollars in millions, for each of these representative alignments:

Table 6-1: Capital Cost Estimate (2007 dollars in millions)

Description		Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7	Alternative 8
		TSM	Low Investment BRT	Median Investment BRT	High Investment BRT	Low Investment LRT	Median Investment LRT	High Investment LRT
Length (Mile):		15.97	16.94	16.78	16.84	16.17	16.36	16.53
Number of Stations:		21	22	22	21	21	21	20
Number of Revenue Vehicles:		68	60	49	42	44	44	44
10	Guideway & Track Elements	$10.54	$76.06	$150.57	$473.02	$307.52	$311.01	$557.71
20	Stations, Stops, Terminals, Intermodal	$6.23	$49.04	$82.32	$126.73	$103.12	$101.62	$157.33
30	Support Facilities: Yards, Shops, Administration. Buildings	$0.00	$21.60	$17.64	$15.12	$82.29	$82.29	$82.29
40	Sitework & Special Conditions	$3.20	$48.88	$92.81	$95.72	$86.98	$94.56	$82.48
50	Systems	$1.42	$29.06	$24.65	$21.23	$127.04	$126.59	$130.31
Construction Subtotal (Sum Categories 10-50)		$21.40	$224.63	$367.99	$731.82	$706.95	$716.08	$1,010.11
60	ROW, Land, Existing Improvements	$3.21	$33.10	$37.10	$49.80	$58.30	$59.70	$69.50
70	Vehicles	$48.27	$42.59	$34.78	$29.81	$170.23	$170.23	$170.23
80	Professional Services	$6.85	$71.88	$117.76	$234.18	$226.22	$229.15	$323.24
90	Unallocated Contingency	$2.24	$14.18	$22.19	$42.87	$44.44	$44.99	$61.76
Total Project Cost		**$81.96**	**$386.39**	**$579.82**	**$1,088.48**	**$1,206.15**	**$1,220.15**	**$1,634.84**

7. References

Maryland State Highway Administration (SHA). *2007 Highway Construction Cost Estimating Manual*. October 2007.

Federal Transit Administration (FTA). *Standard Cost Categories for Capital Project*. Revision 10, May 2007. http://www.fta.dot.gov/

U.S. Department of Labor, Bureau of Labor Statistics. *Producer Price Index for Highway and Street Construction*. http://www.bls.gov/ppi/home.htm

Bi-County Transitway – Master Plan Alignment, Alternatives Analysis and DEIS, Capital Cost Estimate – Tunnel Alternatives prepared by Jacobs, December 2006.

Appendix A

Unit Costs

Purple Line Corridor Transit Study
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UNIT COST LIBRARY

CODE	DESCRIPTION	2nd Qtr 2007	
		UNIT	UNIT COST $
01560.01	Traffic Control Allowance, Level 1	rf	$75.67
01560.02	Traffic Control Allowance, Level 2	rf	$151.34
01560.03	Traffic Control Allowance, Level 3	rf	$216.20
02110.01	Excavation & Removal of Contaminated Soil	cy	$172.96
02120.01	Environmental Mitigation Allowance, Level 1	rf	$54.05
02120.02	Environmental Mitigation Allowance, Level 2	rf	$129.72
02120.03	Environmental Mitigation Allowance, Level 3	rf	$216.20
02120.10	Residential Sound Mitigation	ea	$32,430.00
02220.01	Sawcut Asphalt Pavement	lf	$3.78
02220.02	Sawcut Concrete Pavement	lf	$7.03
02220.05	Asphalt Pavement Removal	sy	$7.57
02220.06	Concrete Pavement Removal	sy	$18.38
02220.07	Remove Concrete Sidewalk	sy	$12.97
02220.08	Remove Concrete Curb & Gutter	lf	$6.49
02220.10	Remove Concrete Retaining Wall	sf	$32.43
02220.20	Disposal Charge-Hazardous Material	cy	$86.48
02220.80	Guideway Demolition - Allowance	rf	$97.29
02220.99	Site Demolition Allowance	sf	$4.32
02225.01	Pedestrian Access for Stations	sf	$32.43
02225.05	Civil Site Developent for MSF, Allowance	sf	$10.81
02225.10	Allowance for Structural Modifications	sf	$32.43
02230.01	Clearing & Grubbing Allowance, Level 1	sy	$0.70
02230.02	Clearing & Grubbing Allowance, Level 2	sy	$1.03
02230.03	Clearing & Grubbing Allowance, Level 3	sy	$1.84
02240.01	Dewatering Allowance	rf	$270.25
02250.01	Steel Sheet Pile	sf	$43.24
02250.05	Soldier Pile & Lagging	sf	$86.48
02250.10	Steel Sheet Pile Cofferdam	sf	$43.24
02260.05	Secant Pile Wall, ≤ 30' Ht.	sf	$302.68
02260.06	Secant Pile Wall, 31 - 50' Ht.	sf	$248.63
02260.07	Secant Pile Wall, 51 - 70' Ht.	sf	$232.42
02260.08	Secant Pile Wall, > 71' Ht.	sf	$210.80
02260.20	Soil Nails	lf	$37.84
02260.50	Street Decking	sf	$54.05
02310.01	Rough Grading	sf	$0.70
02310.02	Finish Grading	sf	$0.86
02310.10	At-Grade Drainage Ditch	lf	$14.05
02315.01	Excavation w/haul	cy	$14.05
02315.02	Embankment	cy	$16.22
02315.03	Guideway Excavation	cy	$27.03
02315.10	Structural Excavation	cy	$16.22
02315.11	Structural Backfill	cy	$27.03
02315.20	Cut & Cover Excavation	cy	$32.43
02315.21	Cut & Cover Backfill	cy	$37.84
02340.01	Geotextile Fabric	sy	$2.16

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CODE	DESCRIPTION	2nd Qtr 2007	
		UNIT	UNIT COST $
02340.10	Mud Slab	cy	$162.15
02370.01	Erosion Control Allowance	rf	$8.65
02410.01	Station Excavation & Support, Mined	cy	$432.40
02410.02	Tunnel Excavation & Support, TBM	cy	$286.47
02410.03	Shaft Excavation & Support, Rock	cy	$189.18
02410.04	Shaft Excavation & Support, Earth	cy	$162.15
02410.06	Shotcrete	cy	$270.25
02410.10	Contact Grouting	cf	$12.97
02410.20	CIPC, Tunnel	cy	$1,081.00
02410.21	CIPC, Shaft	cy	$918.85
02410.22	Precast Tunnel Lining Segments	sf	$32.43
02410.23	Tunnel Lining -Temporary	sf	$19.46
02410.30	Crosspassage	ea	$540,500.00
02410.45	Tunnel Construction Instrumentation	lf	$70.27
02410.50	Temporary Air, Water, Ventilation	lf	$27.03
02455.05	Driven Steel H-Piling	vlf	$32.43
02465.03	Drilled Shaft, 36" Dia.	vlf	$264.85
02465.04	Drilled Shaft, 48" Dia.	vlf	$475.64
02465.06	Drilled Shaft, 72" Dia.	vlf	$1,118.84
02465.08	Drilled Shaft, 96" Dia.	vlf	$2,048.50
02465.10	Drilled Shaft, 120" Dia.	vlf	$3,302.46
02465.12	Drilled Shaft, 144" Dia.	vlf	$4,756.40
02470.01	OCS Pole Foundations	ea	$4,324.00
02470.05	OCS Pole Hold Down for Structure	ea	$1,081.00
02500.01	Utility Modifications Allowance, Level 1	lf	$162.15
02500.02	Utility Modifications Allowance, Level 2	lf	$399.97
02500.03	Utility Modifications Allowance, Level 3	lf	$670.22
02500.04	Utility Modifications Allowance, Adjustments	lf	$21.62
02500.05	Utility Modifications Allowance, Site	sf	$2.05
02500.10	Utility Modifications Allowance, Undergrounding	lf	$864.80
02500.15	Utility Modifications Allowance, Culvert Extension	lf	$216.20
02500.20	Utility Modifications Allowance, 30" Waterline	lf	$585.90
02500.21	Utility Modifications Allowance, 42" Waterline	lf	$823.72
02620.01	Wall Drains	lf	$10.81
02620.02	Underdrains	lf	$8.65
02620.10	Composite Drainage Board	sf	$2.16
02630.01	Pavement Drainage, Allowance	lf	$81.08
02630.09	Trackway Drainage, Ballasted	lf	$21.62
02630.10	Trackway Drainage, Paved Area	lf	$37.84
02630.11	Trackway Drainage, Tunnel	lf	$91.89
02630.12	Trackway Drainage, Aerial	lf	$54.05
02630.20	Storm Water Management Pond	sy	$16.22
02630.25	Storm Water Management Piping	sf	$2.70
02720.02	Aggregate Base	cy	$32.43
02730.01	Cement Stabilized Base	cy	$64.86

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CODE	DESCRIPTION	2nd Qtr 2007	
		UNIT	UNIT COST $
02740.01	Asphalt Treated Base	tn	$70.27
02740.05	Asphalt Concrete Pavement	tn	$86.48
02740.10	Paving/Sidewalk/Curbs for MSF, Allowance	sf	$3.78
02750.01	Concrete Pavement, ≤ 8" Depth	cy	$367.54
02750.02	Concrete Pavement, > 8" Depth	cy	$259.44
02750.05	Temporary Concrete Pavement on Foam	cy	$275.66
02766.01	Misc. Signing and Striping, Roadway Median	lf	$2.16
02766.02	Misc. Signing and Striping, Parking Lot	sf	$0.54
02766.05	Misc. Signing and Striping, Roadway Heavy	lf	$5.41
02770.01	Temporary Asphalt Curb	lf	$5.41
02770.02	Concrete Curb	lf	$12.97
02770.03	Concrete Curb and Gutter	lf	$18.38
02770.04	Concrete Gutter	sy	$27.03
02770.05	Concrete Mountable Curb	lf	$21.62
02770.06	Concrete Median with Planter	sy	$97.29
02770.07	Concrete Track Curb	lf	$41.08
02770.08	Concrete Grade Beam	lf	$48.65
02770.10	Concrete Rumble Strip	lf	$23.78
02775.01	Concrete Sidewalk	sy	$29.19
02780.05	Brick Pavers	sy	$151.34
02790.01	Precast Concrete Sleeper Beams	ea	$864.80
02790.02	Precast Concrete Guideway Beams	lf	$70.27
02810.01	Irrigation System Allowance, Level 1	rf	$34.59
02810.02	Irrigation System Allowance, Level 2	rf	$43.24
02820.01	6 ft. Chain Link Fence	lf	$12.97
02820.02	6 ft. Chain Link Fence w/ 3 Strand Barb Wire	lf	$17.30
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	$16.22
02820.04	6 ft. Chain Link Fence, Wall Mounted w/ 3 Strand B	lf	$21.62
02830.01	Reinforced Earth Walls (MSE)	sf	$34.59
02830.05	CIPC, Retaining Wall, Complete	sf	$49.19
02840.01	Metal Guardrail	lf	$23.78
02840.05	Concrete Barrier Wall	lf	$56.21
02840.10	Precast Sound Wall	sf	$28.11
02850.01	Pedestrian Bridge Structure, Allowance	sf	$162.15
02850.10	Service/Safety Walkway	lf	$97.29
02900.01	Landscaping Allowance, Level 1	rf	$32.43
02900.02	Landscaping Allowance, Level 2	rf	$43.24
02900.05	Landscaping Allowance, Site	sf	$2.16
02960.01	Pavement Milling, Up to 3" Depth	sy	$4.32
03210.01	Reinforcing Steel	lb	$1.24
03210.02	Reinforcing Steel, Epoxy Coated	lb	$1.73
03210.03	Prestressing Strands	lb	$3.51
03300.01	CIPC, Footings	cy	$356.73
03300.02	CIPC, Slab on Grade	cy	$389.16
03300.03	CIPC, Walls	cy	$702.65

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CODE	DESCRIPTION	2nd Qtr 2007	
		UNIT	UNIT COST $
03300.04	CIPC, Columns	cy	$886.42
03300.05	CIPC, Beams	cy	$799.94
03300.06	CIPC, Parapet	cy	$756.70
03300.07	CIPC, Elevated Slab	cy	$767.51
03300.08	CIPC, C&C Slab on Grade	cy	$410.78
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	$475.64
03300.10	CIPC, C&C Exterior Walls, Formed 2 Sides	cy	$529.69
03300.11	CIPC, C&C Interior Walls	cy	$572.93
03300.12	CIPC, C&C Roof Slab	cy	$702.65
03300.13	CIPC, Aerial Footing	cy	$356.73
03300.14	CIPC, Aerial Pier	cy	$648.60
03300.15	CIPC, Aerial Pier Cap	cy	$702.65
03300.16	CIPC, Aerial Deck Slab	cy	$767.51
03300.17	CIPC, Aerial Box Girder	cy	$886.42
03300.20	CIPC, Plinth	cy	$972.90
03300.99	CIPC, Miscellaneous Structures	cy	$940.47
03350.10	Concrete Finish, Stamping	sf	$1.62
03400.03	Precast Prestressed I Beams	lf	$145.94
03410.20	Precast Concrete Slabs	sf	$2.81
03410.22	Precast Segmental Box Girder, Single	lf	$864.80
03410.23	Precast Segmental Box Girder, Single Long Span	lf	$1,135.05
03410.24	Precast Segmental Box Girder, Double	lf	$1,621.50
03410.25	Precast Segmental Box Girder, Double, Long Spa	lf	$2,162.00
03410.26	Precast Segmental Box Girder, Crossover	lf	$2,378.20
03410.26	Precast Barrier Wall	sf	$15.13
05120.01	Structural Steel, Box Girder	lb	$1.62
05120.02	Structural Steel	lb	$1.89
05120.03	Structural Steel, Truss	lb	$2.38
05120.05	Structural Steel, Misc.	lb	$4.32
05520.01	Metal Pipe and Cable Railing	lf	$64.86
05520.05	Safety Railing	lf	$27.03
05650.01	Subballast	cy	$44.32
05650.02	Ballast	cy	$49.73
05650.03	Concrete Track Slab, 8"	sy	$81.08
05650.04	Ballast Mat	sf	$10.81
05650.05	Ballasted Trackwork, incl/ Ties, Fasteners & Rail	tf	$232.42
05650.06	Direct Fixation Trackwork, incl/ Fasteners & Rail	tf	$432.40
05650.10	Ballasted Freight Railroad, incl/ Ties, Fasteners &	tf	$156.75
05650.14	Embedded Trackwork, Streetcar incl/ Fasteners &	tf	$421.59
05650.15	Embedded Trackwork, incl/ Fasteners & Rail	tf	$524.29
05650.16	Embedded Trackwork, at roadway crossing	tf	$621.58
05650.22	Precast Concrete Road Crossing Panels	tf	$621.58
05650.24	Concrete Track Panels	sy	$30.27
05650.25	Concrete Ballast Curb	lf	$43.24
05650.30	Permanent Terminal, Ballasted	ea	$46,699.20

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CODE	DESCRIPTION	2nd Qtr 2007	
		UNIT	UNIT COST $
05650.33	Special Trackwork, No. 8 Dbl Crossover, Ballasted	ea	$441,048.00
05650.34	Special Trackwork, No. 8 Dbl Crossover,DF	ea	$531,852.00
05650.37	Special Trackwork, No. 8 Sgl Crossover, Ballasted	ea	$220,524.00
05650.38	Special Trackwork, No. 8 Sgl Crossover,DF	ea	$272,412.00
05650.42	Special Trackwork, No. 8 Turnout,Ballasted	ea	$106,370.40
05650.43	Special Trackwork, No. 6 Turnout,Ballasted	ea	$88,209.60
05650.45	Special Trackwork, Junction, Ballasted	ea	$181,608.00
05650.48	Special Trackwork, No. 10 Turnout,DF	ea	$194,580.00
05650.49	Special Trackwork, No. 8 Turnout,DF	ea	$142,692.00
05650.50	Special Trackwork, No. 5 Turnout,DF	ea	$90,804.00
05650.52	Special Trackwork, 25 M Turnout, Embedded	ea	$135,125.00
05650.53	Special Trackwork, 50 M Turnout, Embedded	ea	$194,580.00
05650.54	Special Trackwork, 100 M Turnout, Embedded	ea	$233,496.00
05650.55	Special Trackwork, Sgl Crossover, Embedded	ea	$505,908.00
05650.56	Special Trackwork, Dbl Crossover, Embedded	ea	$1,026,950.00
05820.01	Elastomeric Bearing Pads	ea	$648.60
05820.02	Disk Bearing, (200 Kip)	ea	$2,594.40
05820.03	Disk Bearing, (300 Kip)	ea	$3,891.60
05820.04	Disk Bearing, (400 Kip)	ea	$5,188.80
07130.21	Sheet Waterproofing	sf	$6.49
07170.21	Bentonite Waterproofing, Vertical	sf	$12.97
07170.22	Bentonite Waterproofing, Horizontal	sf	$10.81
09000.01	Architectural Finish, Station	sf	$43.24
09000.02	Platform Edge	sf	$45.40
09000.03	Curtain Wall	sf	$85.40
09000.05	Station Wind Screen	sf	$19.46
09000.10	Architectural Treatment, Retaining Wall	sf	$16.22
09000.20	Painting Steel Structure	lb	$0.13
10100.01	Signage, Station Allowance	sta	$66,481.50
10100.03	Signage, Guideway Allowance	lf	$12.97
10500.01	Station Canopy	sf	$151.34
10500.05	Streetcar Shelter	sf	$91.89
11155.03	Fare Collection, Money Changer	ea	$15,134.00
11155.10	Fare Collection, Ticket Vending Machine	ea	$70,265.00
11155.11	Fare Collection, Validating Machine	ea	$6,486.00
11155.15	Fare Collection, Parking Lot / Garage	ea	$64,860.00
11155.20	Fare Collection, Installation & Testing	ea	$12,972.00
12000.01	Station Furnishings, Center Platform (Allowance)	sta	$75,670.00
12000.02	Station Furnishings, Side Platform (Allowance)	sta	$121,072.00
12000.05	Station Furnishings, Streetcar Stop (Allowance)	sta	$2,162.00
12000.10	Site Furnishings, (Allowance)	ea	$3,243.00
13000.01	Maintenance Building	sf	$162.15
13000.02	Operations Building	sf	$183.77
13000.04	MSF Buildings	sf	$189.18
13000.05	Car Wash Building	sf	$194.58

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CODE	DESCRIPTION	2nd Qtr 2007	
		UNIT	UNIT COST $
13000.06	Service Bays	sf	$151.34
13000.07	Station Service Rooms	sf	$145.94
13000.10	Pedestrian Access Structure	sf	$151.34
13000.20	Traction Power Structure, Substation	ea	$378,350.00
13100.10	MSF Equipment - Heavy, Allowance	ls	$7,026,500.00
13100.12	MSF Equipment - Light, Allowance	ls	$2,162,000.00
13300.01	Paint Shop Equipment	ls	$432,400.00
13300.02	Wash Equipment	ls	$648,600.00
13300.03	Misc. Office and Shop Equipment	ls	$810,750.00
14600.01	Escalators, to 25 ft. Rise	ea	$210,795.00
14600.02	Escalators, 36 ft. to 40 ft. Rise	ea	$287,546.00
14600.03	Escalators, 56 ft. to 60 ft. Rise	ea	$343,758.00
14600.04	Escalators, 71 ft. to 90 ft. Rise	ea	$358,892.00
14600.05	Escalators, 111 ft. to 120 ft. Rise	ea	$540,500.00
14600.10	Elevators, 25 ft. Rise	ea	$145,935.00
14600.11	Elevators,40 ft. Rise	ea	$222,686.00
14600.12	Elevators,60 ft. Rise	ea	$312,409.00
14600.13	Elevators, 80 ft. Rise	ea	$389,160.00
14600.14	Elevators, 90 ft. Rise	ea	$432,400.00
14600.15	Elevators, 120 ft. Rise (High Speed)	ea	$1,059,380.00
14600.20	Stairs Complete, Std. Width	vf	$864.80
14600.21	Stairs Complete, Wide	vf	$1,470.16
15300.01	Fire Protection Piping, Tunnel	lf	$237.82
15400.01	Pumping Station (Tunnel / Cut & Cover)	ea	$216,200.00
15700.02	Subsurface Ventilation	lf	$681.03
15700.10	Ventilation Equipment (Allowance)	ea	$864,800.00
15800.01	Station Mechanical (Allowance)	sf	$11.89
15800.02	Station Mechanical & HVAC (Allowance)	sf	$29.19
16000.01	Station Electrical (Allowance)	sf	$27.03
16060.01	Corrosion Control, At-Grade	lf	$2.16
16060.02	Corrosion Control, Aerial	lf	$2.70
16130.21	Ductbank, At Grade Guideway	lf	$48.65
16130.22	Ductbank, Aerial Guideway	lf	$102.70
16130.23	Ductbank, Tunnel Guideway	lf	$75.67
16370.01	Traction Power Equipment, Substation	ea	$864,800.00
16370.02	Traction Power Equipment, Streetcar Substation	ea	$756,700.00
16370.03	Traction Power Equipment, Remove Substation	ea	$97,290.00
16370.04	Traction Power, Trunkline	lf	$54.05
16370.05	Traction Power, Branchline	lf	$43.24
16370.06	Traction Power, (OCS), At Grade Sngl Track	lf	$216.20
16370.07	Traction Power, (OCS), At Grade Dbl Track	lf	$259.44
16370.09	Traction Power, (OCS), Aerial Double Track	lf	$254.04
16370.10	Traction Power, (OCS), Tunnel Double Track	lf	$281.06
16370.15	Traction Power, (OCS), Upgrade 750V to 1500V	lf	$33.51
16370.20	Traction Power, (OCS), Streetcar Sngl Track	lf	$172.96

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UNIT COST LIBRARY

CODE	DESCRIPTION	2nd Qtr 2007	
		UNIT	UNIT COST $
16370.21	Traction Power, (OCS), Streetcar Dbl Track	lf	$199.99
16370.30	Traction Power, (OCS), Relocate Existing	lf	$140.53
16500.01	Lighting, At Grade Guideway	lf	$54.05
16500.02	Lighting, Aerial Guideway	lf	$75.67
16500.04	Lighting, Underground Guideway	lf	$147.02
16500.05	Lighting, Stations (Allowance)	sf	$6.49
16500.06	Lighting, Roadway	lf	$32.43
16500.07	Lighting, Area	sf	$4.32
16500.10	Street Lighting, Cobra Head	lf	$37.84
16500.11	Street Lighting, Joint Use Pole	lf	$81.08
16700.01	Signal System - Single Track	lf	$237.82
16700.02	Signal System - Double Track	lf	$297.28
16700.03	Signal System - Yard	lf	$156.75
16700.04	Signal System, Double Crossover	ea	$221,605.00
16700.05	Signal System, Single Crossover	ea	$196,742.00
16700.06	Signal System, Turnout	ea	$183,770.00
16700.07	Communication System, Single Track	lf	$54.05
16700.08	Communication System, Double Track	lf	$70.27
16700.09	Communication System, Station	ea	$270,250.00
16700.10	Communication, Central Control Allowance	ls	$3,243,000.00
16700.11	Highway Crossing Signals, Preemptive	ea	$178,365.00
16700.12	Highway Crossing Signals, Preferential	ea	$243,225.00
16700.13	Crossing Gates with Flashers, New	ea	$227,010.00
16700.14	Crossing Gates with Flashers, Relocated	ea	$64,860.00
16700.15	Pedestrian Crossing Gates	ea	$91,885.00
16700.18	Communication System, Passenger Information	ea	$54,050.00
16700.19	Signal Prioritization	ea	$64,860.00
16700.20	Traffic Signal - Modify Existing	ea	$75,670.00
16700.21	Traffic Signal - New	ea	$162,150.00
16700.25	Traffic Signal - Pedestrian	ea	$32,430.00
16800.01	Train Control, Commuter - Upgrade Existing	lf	$97.29
16800.05	Train Control, Commuter - Turnout	ea	$183,770.00
17100.01	Articulated LRV	ea	$3,377,550.00
17100.02	Articulated LRV - Low Floor	ea	$3,684,600.00
17100.03	MOW Vehicles & Equipment, Allowance	ls	$3,582,250.00
17100.04	Standard 35 ft. Bus	ea	$358,225.00
17100.05	Standard 40 ft. Bus	ea	$416,000.00
17100.06	Articulated 60 ft. Bus	ea	$676,000.00
17100.10	Articulated 60 ft. Bus, low floor, door 2 sides	ea	$869,975.00
17100.15	Streetcar Vehicles (Skoda)	ea	$2,865,800.00

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COMPOSITE SECTION COSTS

CODE	DESCRIPTION	2nd Qtr 2007 UNIT	2nd Qtr 2007 UNIT COST $
10	**GUIDEWAY & TRACK ELEMENTS**		
10.01 to 10.03	**Guideway: At-grade**		
AG02	At-Grade Dbl Ballasted Track	RF	$327
AG05	At-Grade Sngl Track in Roadway - Embedded, Streetcar	RF	$224
AG06	At-Grade Dbl Track in Roadway - Embedded, Streetcar	RF	$262
AG07	At-Grade Sgl Track in Roadway - Embedded, Exclusive	RF	$565
AG08	At-Grade Sgl Track in Roadway Intersection - Embedded	RF	$499
AG09	At-Grade Sgl Track in Roadway - Embedded, Mixed Traffic	RF	$475
AG11	At-Grade Dbl Track in Roadway - Embedded, Exclusive	RF	$724
AG12	At-Grade Dbl Track in Roadway Intersection - Embedded	RF	$691
AG13	At-Grade Dbl Track in Roadway - Embedded, Mixed Traffic	RF	$704
AG20	At-Grade Dbl Track on Exist. Structure - Direct Fixation	RF	$748
AG21	At-Grade Dbl Track on Exist. Structure - Embedded, Exclusive	RF	$790
AG44	At-Grade Single Ballasted LRT w/BC on 2 sides	RF	$380
AG45	At-Grade Double Ballasted LRT w/BC on 2 sides	RF	$492
RX02	At-Grade Track - Roadway Crossing, 2 Tracks	RF	$436
RX03	At-Grade Track - Roadway Crossing, 3 Tracks	RF	$511
DB01	Dedicated Busway; New Alignment - Single Lane	RF	$444
DB02	Dedicated Busway; New Alignment - Double Lane	RF	$614
DB03	Dedicated Busway; Existing Roadway - Single Lane	RF	$603
DB04	Dedicated Busway; Existing Roadway - Double Lane	RF	$1,002
DB06	Dedicated Busway; Existing Roadway - Single Lane w/o Pavement Recons	RF	$328
DB14	Dedicated Busway - Arterial Median w/o Thru Lanes	RF	$301
DB15	Dedicated Busway - Arterial Median w Thru Lanes	RF	$507
DB16	Dedicated Busway - Arterial Median w/ barrier wall	RF	$737
DB17	Dedicated Busway - Arterial Median w Landscaping	RF	$1,514
DB18	Dedicated Busway - Arterial Curb Lanes	RF	$389
MB01	Mixed Flow Busway - Single Lane	RF	$329
MB02	Mixed Flow Busway - Double Lane	RF	$485
MB05	TSM Busway - Double Lane	RF	$100
10.04	**Guideway: Aerial structure**		
BR02	Bridge Structure, Dbl track	RF	$6,774
BR10	Bridge Structure, Modification of Existing Superstructure	SF	$41

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COMPOSITE SECTION COSTS

CODE	DESCRIPTION	2nd Qtr 2007	
		UNIT	UNIT COST $
EL14	Precast Single Segmental Box Girder (Avg. Pier 40' Ht.)	RF	$5,279
EL22	Precast Segmental Box Girder (Avg. Pier 20' Ht.)	RF	$5,898
EL23	Precast Segmental Box Girder (Avg. Pier 30' Ht.)	RF	$6,026
EL24	Precast Segmental Box Girder (Avg. Pier 40' Ht.)	RF	$6,175
EL25	Precast Segmental Box Girder (Avg. Pier 50' Ht.)	RF	$6,348
EL26	Precast Segmental Box Girder (Avg. Pier 60' Ht.)	RF	$6,554
EL27	Precast Segmental Box Girder (Avg. Pier 70' Ht.)	RF	$6,789
EL32	Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 20' Ht.)	RF	$6,512
EL33	Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 30' Ht.)	RF	$6,647
EL34	Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 40' Ht.)	RF	$6,805
EL35	Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 50' Ht.)	RF	$6,986
EL36	Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 60' Ht.)	RF	$7,202
EL37	Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 70' Ht.)	RF	$7,448
EL43	Precast Segmental Box Girder, Long Span (Avg. Pier 30' Ht.)	RF	$6,418
EL44	Precast Segmental Box Girder, Long Span (Avg. Pier 40' Ht.)	RF	$6,491
EL45	Precast Segmental Box Girder, Long Span (Avg. Pier 50' Ht.)	RF	$6,726
EL46	Precast Segmental Box Girder, Long Span (Avg. Pier 60' Ht.)	RF	$6,910
EL47	Precast Segmental Box Girder, Long Span (Avg. Pier 70' Ht.)	RF	$7,122
EL53	Precast Segmental Box Girder, Crossover (Avg. Pier 30' Ht.)	RF	$6,850
EL54	Precast Segmental Box Girder, Crossover (Avg. Pier 40' Ht.)	RF	$7,000
EL55	Precast Segmental Box Girder, Crossover (Avg. Pier 50' Ht.)	RF	$7,173
EL57	Precast Segmental Box Girder, Crossover (Avg. Pier 70' Ht.)	RF	$7,613
DB62	Dedicated Busway - Double Lane, Bridge Structure	RF	$3,846
DB63	Dedicated Busway - Three Lanes, Bridge Structure	RF	$5,576
DB64	Dedicated Busway - Four Lanes, Bridge Structure	RF	$7,307
DB72	Dedicated Busway - Precast Box Girder (Avg. Pier 20' Ht.)	RF	$5,783
DB73	Dedicated Busway - Precast Box Girder (Avg. Pier 30' Ht.)	RF	$5,911
DB74	Dedicated Busway - Precast Box Girder (Avg. Pier 40' Ht.)	RF	$6,060
DB75	Dedicated Busway - Precast Box Girder (Avg. Pier 50' Ht.)	RF	$6,234
10.05	**Guideway: Built-up fill**		
DB22	Dedicated Busway - Double Lane, Embankment (5' Avg.)	RF	$683
DB23	Dedicated Busway - Three Lanes, Embankment (5' Avg.)	RF	$880
10.06	**Guideway: Underground cut & cover**		
CC03	Cut & Cover Single Box (Avg. 30' Depth)	RF	$13,432
CC04	Cut & Cover Single Box (Avg. 40' Depth)	RF	$15,952
CC05	Cut & Cover Single Box (Avg. 50' Depth)	RF	$18,473

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CODE	DESCRIPTION	2nd Qtr 2007	
		UNIT	UNIT COST $
CC23	Cut & Cover Double Box (Avg. 30' Depth)	RF	$18,568
CC24	Cut & Cover Double Box (Avg. 40' Depth)	RF	$21,572
CC25	Cut & Cover Double Box (Avg. 50' Depth)	RF	$24,575
CC26	Cut & Cover Double Box (Avg. 60' Depth)	RF	$27,586
CC83	Cut & Cover Double Crossover Box (Avg. 30' Depth)	RF	$44,069
CC84	Cut & Cover Double Crossover Box (Avg. 40' Depth)	RF	$48,107
CC85	Cut & Cover Double Crossover Box (Avg. 50' Depth)	RF	$52,152
DB56	Dedicated Busway - Double Lane, Cut & Cover (20' Avg.)	RF	$15,299
10.07	**Guideway: Underground tunnel**		
TL01	TBM Tunnel - Single Bore (18'-10" I.D.)	RF	$8,235
TL05	TBM Tunnel - Twin Bore (18'-10" I.D.)	RF	$17,206
TL08	TBM Tunnel thru C&C Station - Twin Bore (18'-10" I.D.)	RF	$11,098
TL20	Dbl Track in Exist. Tunnel - Direct Fixation	RF	$3,740
VS01	Fan / Vent Shaft Equipment	EA	$942,632
VS05	Fan / Vent Shaft (18' O.D.)	VF	$6,510
ES05	Emergency Access Shaft (24' O.D.)	VF	$10,527
PS01	Pumping Station	EA	$235,658
DB57	Dedicated Busway - Single Lane Tunnel	RF	$12,754
DB58	Dedicated Busway - Double Lane Tunnel	RF	$21,002
DB59	Dedicated Busway - Double Lane Tunnel thru C&C Station	RF	$16,905
10.08	**Guideway: Retained cut or fill**		
RC01	Retained Cut - One Side (Avg. 10' Depth)	RF	$2,767
RC02	Retained Cut - One Side (Avg. 20' Depth)	RF	$3,972
RC03	Retained Cut - One Side (Avg. 30' Depth)	RF	$5,154
RC04	Retained Cut - One Side (Avg. 25' Depth)	RF	$4,574
RC11	Retained Cut - Two Side (Avg. 10' Depth)	RF	$4,561
RC12	Retained Cut - Two Side (Avg. 20' Depth)	RF	$6,970
RC13	Retained Cut - Two Side (Avg. 30' Depth)	RF	$9,334
RC15	Retained Cut - Two Side (Avg. 50' Depth)	RF	$14,937
RF05	Retained Fill - One Side (Avg. 10' Height)	RF	$794
RF06	Retained Fill - One Side (Avg. 20' Height)	RF	$1,223
RF11	Retained Fill - Single Track, Two Sides (Avg. 10' Height)	RF	$1,958
RF20	Retained Fill - Two Sides (Avg. 5' Height)	RF	$1,783
RF21	Retained Fill - Two Sides (Avg. 10' Height)	RF	$2,242
RF22	Retained Fill - Two Sides (Avg. 20' Height)	RF	$3,160
DB24	Dedicated Busway - Retained Cut, One Side (Avg. 10' Depth)	RF	$1,950

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COMPOSITE SECTION COSTS

CODE	DESCRIPTION	2nd Qtr 2007	
		UNIT	UNIT COST $
DB25	Dedicated Busway - Retained Cut, One Side (Avg. 20' Depth)	RF	$3,154
DB26	Dedicated Busway - Retained Cut, Two Side (Avg. 10' Depth)	RF	$3,472
DB27	Dedicated Busway - Retained Cut, Two Side (Avg. 20' Depth)	RF	$5,881
DB32	Dedicated Busway - Double Lane, Ret Fill (5' Avg.)	RF	$1,120
DB33	Dedicated Busway - Single Lane, Ret Fill (10' Avg.)	RF	$1,395
DB36	Dedicated Busway - Retained Cut, One Side (Avg. 25' Depth)	RF	$3,757
DB37	Dedicated Busway - Retained Cut, Two Side (Avg. 50' Depth)	RF	$13,536
DB42	Dedicated Busway - Double Lane, Ret Fill (20' Avg.)	RF	$2,887
DB52	Dedicated Busway - Double Lane, Portal Structure (15' Avg.)	RF	$9,032
10.09	**Track: Direct fixation**		
TK20	Direct Fixation - Single Track	RF	$471
TK21	Direct Fixation - Double Track	RF	$943
TK24	Direct Fixation - Single Track Conversion	RF	$749
TK25	Direct Fixation - Double Track Conversion	RF	$1,333
10.10	**Track: Embedded**		
TK08	Embedded - Streetcar Single Track	RF	$460
TK09	Embedded - Streetcar Double Track	RF	$919
TK10	Embedded - Single Track	RF	$571
TK11	Embedded - Double Track	RF	$1,143
TK14	Embedded - Single Track at Intersection	RF	$678
TK15	Embedded - Double Track at Intersection	RF	$1,355
10.11	**Track: Ballasted**		
TK01	Ballasted - Single Track	RF	$308
TK02	Ballasted - Double Track	RF	$593
10.12	**Track: Special (switches, turnouts)**		
SP01	Crossing Panels - Single Track	TF	$678
SP02	Crossing Panels - Double Track	TF	$1,355
SP07	Ballasted - Single Cross-over	EA	$240,371
SP08	Ballasted - Double Cross-over (Std.)	EA	$480,742
SP12	Ballasted - Double Cross-over (Wide)	EA	$528,817
SP14	Ballasted - Pocket Track	RF	$1,467
SP15	Ballasted - Turnout	EA	$115,944
SP16	Embedded - Turnout	EA	$212,092
SP17	Embedded - Single Cross-over	EA	$551,440
SP18	Embedded - Double Cross-over	EA	$1,119,376
SP20	Direct Fixation - Double Cross-over	EA	$579,719
SP21	Direct Fixation - Pocket Track	RF	$2,262

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CODE	DESCRIPTION	2nd Qtr 2007 UNIT	2nd Qtr 2007 UNIT COST $
SP22	Direct Fixation - Turnout	EA	$155,534
SP30	Streetcar - Turnout	EA	$147,286
SP32	Streetcar - Double Cross-over	EA	$783,563
10.13	**Track: Vibration and noise dampening**		
NV01	Noise & Vibration Dampening - Single Track Allowance	RF	$18
NV02	Noise & Vibration Dampening - Double Track Allowance	RF	$35
20	**STATIONS, STOPS, TERMINALS, INTERMODAL**		
20.01	**At-grade station, stop, shelter, mall, terminal, platform**		
ST02	At-Grade - 18 ft. Center Platform - 1 Platform (180')	LS	$844,239
ST05	At-Grade - 18 ft. Center Platform - 1 Platform (225')	LS	$1,000,519
ST07	At-Grade - 18 ft. Center Platform - 1 Platform (120')	LS	$615,050
ST08	At-Grade - 18 ft. Center Platform - 1 Platform (200')	LS	$961,422
ST10	At-Grade - 12 ft. Side Platforms - 2 Platforms (225')	LS	$1,373,901
ST11	At-Grade - 12 ft. Split Side Platforms - 2 Platforms (180')	LS	$1,153,097
ST12	At-Grade - 14 ft. Side Platforms - 2 Platforms (180')	LS	$1,255,204
ST13	At-Grade - 12 ft. Side Platform - 1 Platform (180')	LS	$617,227
ST15	At-Grade - 12 ft. Side Platforms - 2 Platforms (120')	LS	$863,752
ST16	At-Grade - 12 ft. Side Platforms - 2 Platforms (200')	LS	$1,248,760
ST81	At-Grade - Streetcar Stop, Side Platform	LS	$113,094
ST82	At-Grade - Streetcar Stop, Center Platform	LS	$131,723
ST89	At-Grade - Bus Stop - 1 Vehicle Platform	LS	$247,420
ST90	Signage and Systems Mod. to Existing Station	LS	$367,037
ST91	Signage Mod. to Existing Station	LS	$86,958
RM04	Roadway Modifications Allow. - Temporary Paving at BRT Stations	EA	$40,563
20.02	**Aerial station, stop, shelter, mall, terminal, platform**		
ST20	Aerial - 28' Center Platform without Mezz. (225')	LS	$13,333,027
ST21	Aerial - 28' Center Platform with Mezz. (225')	LS	$14,607,644
ST23	Aerial - 30' Center Platform with Mezz. (225')	LS	$15,206,908
20.03	**Underground station, stop, shelter, mall, terminal, platform**		
ST30	Cut & Cover - 30' Center Platform (225')	LS	$24,382,131
ST35	Mined - 30' Center Platform (225')	LS	$52,664,552
20.04	**Other stations, landings, terminals: Intermodal, ferry, trolley, etc.**		
SF10	Station Site Facilities - Intermodal Facility	SF	$28

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COMPOSITE SECTION COSTS

CODE	DESCRIPTION	2nd Qtr 2007 UNIT	2nd Qtr 2007 UNIT COST $
20.06	**Automobile parking multi-story structure**		
SF20	Station Site Facilities - Parking Garage	SP	$19,860
20.07	**Elevators, escalators**		
PA30	Pedestrian Vertical Access - Elevator, 25ft.	EA	$175,565
PA31	Pedestrian Vertical Access - Elevator, 40ft.	EA	$259,224
PA32	Pedestrian Vertical Access - Elevator, 60ft.	EA	$365,270
PA33	Pedestrian Vertical Access - Elevator, 90ft.	EA	$512,556
PA35	Pedestrian Vertical Access - Escalator, 25ft.	EA	$229,767
PA36	Pedestrian Vertical Access - Escalator, 40ft.	EA	$313,425
PA37	Pedestrian Vertical Access - Escalator, 60ft.	EA	$374,696
PA38	Pedestrian Vertical Access - Escalator, 90ft.	EA	$391,192
30	**SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS**		
30.03	**Heavy Maintenance Facility**		
YS05	LRT Maintenance Base	EA	$1,400,000
YS06	BRT Maintenance Base	EA	$300,000
YS08	Maintenance Base, Streetcar	LS	$10,176,891
YS10	Maintenance Facility Upgrade to Heavy Equipment	LS	$11,782,900
30.05	**Yard and Yard Track**		
YT01	Yard Track	TF	$701
40	**SITEWORK & SPECIAL CONDITIONS**		
40.01	**Demolition, Clearing, Earthwork**		
DM01	Demolition Allow. - Existing Bridge Structure	SF	$8.01
DM03	Demolition Allow. - Remove Existing Retaining Wall	LF	$353.49
DM04	Demolition Allow. - Remove Existing Pavement	SF	$4.35
DM05	Demolition Allow. - Existing Building, Moderate	EA	$3,394
DM06	Demolition Allow. - Existing Building	SF	$6
DM10	Demolition Allow. - Existing Station Structure	SF	$12.48
DM30	Demolition Allow. - Existing Site w/Buildings	SF	$10.73
DM80	Demolition Allow. - Guideway	RF	$106.05
40.02	**Site Utilities, Utility Relocation**		
UM01	Utility Modifications Allow. - Level 1	RF	$177
UM02	Utility Modifications Allow. - Level 2	RF	$436
UM03	Utility Modifications Allow. - Level 3	RF	$731
UM04	Utility Undergrounding Allow.	RF	$943
UM05	Utility Modifications Allow. - Adjustments	RF	$24
UM06	Utility Modifications Allow. - Exclusive ROW	RF	$88
UM08	Utility Modifications Allow. - Culvert Extension	RF	$236
UM10	Storm Water Management Allowance	SF	$10.02

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COMPOSITE SECTION COSTS

CODE	DESCRIPTION	2nd Qtr 2007	
		UNIT	UNIT COST $
UM20	Utility Modifications Allow. - 30" Waterline	LF	$639
UM21	Utility Modifications Allow. - 42" Waterline	LF	$898
SL01	Street Lighting Allow. - Standard	RF	$41
SL02	Street Lighting Allow. - Enhanced	RF	$88
40.03	**Haz. mat'l, contam'd soil removal/mitigation, ground water treatments**		
HM01	Hazardous Material Removal Allowance	RF	$57
HM05	Hazardous Material Removal Allowance	SF	$28
40.04	**Environmental mitigation, e.g. wetlands, historic/archeologic, parks**		
EM01	Enviromental Mitigation Allow. - Level 1	RF	$59.00
EM02	Enviromental Mitigation Allow. - Level 2	RF	$141.00
EM03	Enviromental Mitigation Allow. - Level 3	RF	$236.00
EM10	Residential Noise Mitigation Allow.	RF	$141.00
40.05	**Site structures including retaining walls, sound walls**		
RW03	Retaining Wall - Secant Pile < 30ft.	SF	$356
RW04	Retaining Wall	SF	$54
RW05	Modify Existing Retaining Wall	RF	$751
RW06	Crash Wall	RF	$445
SW01	Sound Wall	RF	$460
SW05	Sound Wall, Remove and Rebuild	RF	$719
40.06	**Pedestrian / bike access and accommodation, landscaping**		
PA01	Station Pedestrian Bridge	LF	$5,833
PA10	Station Pedestrian Access - Plaza	SF	$30
PA20	Station Pedestrian Vertical Access, to 25ft.	EA	$356,135
PA05	Station Pedestrian Access Cut & Cover Box	LF	$21,323
LS02	Landscaping Allow. - Site	SF	$2.35
LS10	Landscaping Allow. - Guideway	RF	$37
LS20	Green Space Allow. - BRT	RF	$19.63
LS21	Green Space Allow. - LRT	RF	$21.61
TR01	Pedestrian Trail	RF	$107
TR02	Pedestrian Trail - Structure	RF	$1,838
SE01	Metro Station South Entrance-LRT Level	LS	$4,244,506
SE02	Metro Station South Entrance-Mezzanine Level	LS	$9,904,654
SE03	Metro Station South Entrance-Street Level	LS	$1,655,908
SE04	Metro Station South Entrance-Vertical Circulation	LS	$10,568,772
40.07	**Automobile, bus, van accessways including roads, parking lots**		
RM01	Roadway Modifications Allow. - Full Intersection	EA	$31,455
RM02	Roadway Modifications Allow. - Half Intersection	EA	$22,262

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CODE	DESCRIPTION	2nd Qtr 2007 UNIT	2nd Qtr 2007 UNIT COST $
RM03	Roadway Modifications Allow. - Queue Jump Lane	LF	$204
RM40	Roadway Reconstruction Allow. - Curb, Sidewalk & Retaining Wall	RF	$496
RM41	Roadway Reconstruction Allow. - Curb & Sidewalk (One Side)	RF	$166
RM42	Roadway Reconstruction Allow. - Curb & Sidewalk (Two Sides)	RF	$240
RM43	Roadway Reconstruction Allow. - Curb (One Side)	RF	$119
RM44	Roadway Reconstruction Allow. - Curb (Two Sides)	RF	$147
RM45	Roadway Reconstruction Allow. - Sidewalk (One Side)	RF	$143
RM46	Roadway Reconstruction Allow. - Sidewalk (Two Sides)	RF	$194
RM47	Roadway Reconstruction Allow. - Concrete Median with Planters	SF	$64
RM50	Roadway Modifications Allow. - Bridge	SF	$219
RM80	Roadway Modifications Allow. - AC Paving	SF	$21.53
RM81	Roadway Modifications Allow. - Conc. Paving	SF	$33.66
RM82	Roadway Modifications Allow. - AC Paving (incl. Curb & Sidewalk)	SF	$35.04
RM83	Roadway Modifications Allow. - Mill and Resurface	SF	$6.66
SS01	Streetscaping Allow. - Light	RF	$170
SS02	Streetscaping Allow. - Moderate	RF	$369
SS03	Streetscaping Allow. - Heavy	RF	$568
SF02	Station Site Facilities - Surface Parking	SP	$4,830
SF05	Station Site Facilities - Bus / Shuttle Bays	SP	$4,969
50	**SYSTEMS**		
50.01	**Train control and signals**		
TC01	Train Control - Single Track	RF	$259
TC02	Train Control - Double Track	RF	$324
TC03	Train Control - Signal Prioritization	RF	$94
TC05	Train Control, Line - Yard	RF	$171
TC15	Train Control, Double Crossover	EA	$214,449
TC20	Train Control, Single Crossover	EA	$200,309
TC25	Train Control, Turnout	EA	$241,549
50.02	**Traffic signals and crossing protection**		
RM05	Roadway Modifications Allow. - 4 Quadrant Gates	EA	$378,312
RM20	Roadway Modifications Allow. - Existing Signal Mod.	EA	$82,480
RM21	Roadway Modifications Allow. - New Signal	EA	$176,744
RM22	Roadway Modifications Allow. - Signal Prioritization	EA	$70,697
RM25	Roadway Modifications Allow. - Pedestrian Signal	EA	$35,349
50.03	**Traction power supply: substations**		
TP03	Traction Power, Substation	EA	$1,355,034
TP08	Traction Power, Substation - Streetcar	EA	$824,803
50.04	**Traction power distribution: catenary and third rail**		

Purple Line Corridor Transit Study
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COMPOSITE SECTION COSTS

CODE	DESCRIPTION	2nd Qtr 2007	
		UNIT	UNIT COST $
TP01	OCS System Standard, Single Track	RF	$255
TP02	OCS System - Standard, Double Track	RF	$302
TP05	OCS System Streetcar, Single Track	RF	$203
TP06	OCS System - Streetcar, Double Track	RF	$232
TP10	OCS System - Convert 750V to 1500V, Single Track	RF	$37
TP11	OCS System - Convert 750V to 1500V, Double Track	RF	$73
TP15	Traction Power, Remove Substation	EA	$106,046
TP20	OCS System - Relocate Existing Trolley Bus OCS	RF	$153
50.05	**Communications**		
CM01	Communication, Line - Single	RF	$59
CM02	Communication, Line - Double	RF	$77
CM04	Communication, Station-1 Platform	EA	$206,201
CM05	Communication, Station-2 Platform	EA	$294,573
CM10	Communication, Passenger Information	EA	$58,915
50.06	**Fare collection system and equipment**		
FC01	Fare Collection - 1 Platform	EA	$245,084
FC02	Fare Collection - 2 Platform	EA	$447,750
50.07	**Central Control**		
OC01	Operations Center	EA	$4,736,726
OC05	Operations Center, Equipment Only	EA	$3,534,870
70	**VEHICLES**		
70.01	**Light Rail**		
VH01	LRT Vehicle	EA	$3,684,600
VH02	Modern Streetcar Vehicle	EA	$2,865,800
VH04	Bus - Standard	EA	$416,000
VH05	Bus - Articulated	EA	$676,000

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Dbl Ballasted Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	0.03	$151.34	$4
02230.02	Clearing & Grubbing Allowance, Level 2	sy	6.1	$1.03	$6
02310.01	Rough Grading	sf	55.0	$0.70	$39
02310.02	Finish Grading	sf	38.0	$0.86	$33
02310.10	At-Grade Drainage Ditch	lf	1.0	$14.05	$14
02315.01	Excavation w/haul	cy	2.8	$14.05	$40
02340.01	Geotextile Fabric	sy	4.2	$2.16	$9
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$29
02820.01	6 ft. Chain Link Fence	lf	2.0	$12.97	$26
05650.01	Subballast	cy	0.9	$44.32	$42
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$15
	General Condition Allowance	4.0%			$12
AG02	**At-Grade Dbl Ballasted Track**	**RF**	**Route Foot**		**$327**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Sngl Track in Roadway - Embedded, Streetcar

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02220.01	Sawcut Asphalt Pavement	lf	2.0	$3.78	$8
02220.05	Asphalt Pavement Removal	sy	0.9	$7.57	$7
02310.02	Finish Grading	sf	8.0	$0.86	$7
02315.01	Excavation w/haul	cy	0.3	$14.05	$4
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02720.02	Aggregate Base	cy	0.3	$32.43	$10
	Mobilization Allowance	5.0%			$10
	General Condition Allowance	4.0%			$8
AG05	**At-Grade Sngl Track in Roadway - Embedded, Streetcar**	**RF**	**Route Foot**		**$224**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Dbl Track in Roadway - Embedded, Streetcar

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02220.01	Sawcut Asphalt Pavement	lf	4.0	$3.78	$15
02220.05	Asphalt Pavement Removal	sy	1.8	$7.57	$13
02310.02	Finish Grading	sf	16.0	$0.86	$14
02315.01	Excavation w/haul	cy	0.6	$14.05	$8
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02720.02	Aggregate Base	cy	0.6	$32.43	$19
	Mobilization Allowance	5.0%			$12
	General Condition Allowance	4.0%			$10
AG06	**At-Grade Dbl Track in Roadway - Embedded, Streetcar**	**RF**	**Route Foot**		**$262**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Sgl Track in Roadway - Embedded, Exclusive

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.99	Site Demolition Allowance	sf	14.0	$4.32	$61
02310.02	Finish Grading	sf	12.0	$0.86	$10
02315.01	Excavation w/haul	cy	0.4	$14.05	$6
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02720.02	Aggregate Base	cy	0.5	$32.43	$16
02750.01	Concrete Pavement, < 8" Depth	cy	0.1	$367.54	$33
02770.07	Concrete Track Curb	lf	2.0	$41.08	$82
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$26
	General Condition Allowance	4.0%			$21
AG07	**At-Grade Sgl Track in Roadway - Embedded, Exclusive**	**RF**	**Route Foot**		**$565**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Sgl Track in Roadway Intersection - Embedded

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.99	Site Demolition Allowance	sf	14.0	$4.32	$61
02310.02	Finish Grading	sf	12.0	$0.86	$10
02315.01	Excavation w/haul	cy	0.4	$14.05	$6
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02720.02	Aggregate Base	cy	0.3	$32.43	$9
02750.02	Concrete Pavement, > 8" Depth	cy	0.2	$259.44	$62
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$23
	General Condition Allowance	4.0%			$18
AG08	**At-Grade Sgl Track in Roadway Intersection - Embedded**	**RF**	**Route Foot**		**$499**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Sgl Track in Roadway - Embedded, Mixed Traffic

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.99	Site Demolition Allowance	sf	14.0	$4.32	$61
02310.02	Finish Grading	sf	12.0	$0.86	$10
02315.01	Excavation w/haul	cy	0.4	$14.05	$6
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02720.02	Aggregate Base	cy	0.5	$32.43	$16
02750.01	Concrete Pavement, < 8" Depth	cy	0.1	$367.54	$33
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$22
	General Condition Allowance	4.0%			$17
AG09	**At-Grade Sgl Track in Roadway - Embedded, Mixed Traffic**	**RF**	**Route Foot**		**$475**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Dbl Track in Roadway - Embedded, Exclusive

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.99	Site Demolition Allowance	sf	29.0	$4.32	$125
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	1.0	$14.05	$14
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02720.02	Aggregate Base	cy	1.1	$32.43	$36
02750.01	Concrete Pavement, < 8" Depth	cy	0.2	$367.54	$74
02770.07	Concrete Track Curb	lf	2.0	$41.08	$82
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$33
	General Condition Allowance	4.0%			$27
AG11	**At-Grade Dbl Track in Roadway - Embedded, Exclusive**	**RF**	**Route Foot**		**$724**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Dbl Track in Roadway Intersection - Embedded

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.99	Site Demolition Allowance	sf	29.0	$4.32	$125
02310.02	Finish Grading	sf	29.0	$0.86	$25
02315.01	Excavation w/haul	cy	1.1	$14.05	$15
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02720.02	Aggregate Base	cy	0.7	$32.43	$21
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$138
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$32
	General Condition Allowance	4.0%			$25
AG12	**At-Grade Dbl Track in Roadway Intersection - Embedded**	**RF**	**Route Foot**		**$691**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Dbl Track in Roadway - Embedded, Mixed Traffic

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.99	Site Demolition Allowance	sf	29.0	$4.32	$125
02310.02	Finish Grading	sf	28.0	$0.86	$24
02315.01	Excavation w/haul	cy	1.0	$14.05	$15
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02720.02	Aggregate Base	cy	1.1	$32.43	$36
02750.01	Concrete Pavement, < 8" Depth	cy	0.4	$367.54	$136
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$32
	General Condition Allowance	4.0%			$26
AG13	**At-Grade Dbl Track in Roadway - Embedded, Mixed Traffic**	**RF**	**Route Foot**		**$704**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Dbl Track on Exist. Structure - Direct Fixation

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
				$	$
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.99	Site Demolition Allowance	sf	27.0	$4.32	$117
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
03210.01	Reinforcing Steel	lb	42.6	$1.24	$53
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$34
	General Condition Allowance	4.0%			$27
AG20	**At-Grade Dbl Track on Exist. Structure - Direct Fixation**	**RF**	**Route Foot**		**$748**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Dbl Track on Exist. Structure - Embedded, Exclusive

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02225.10	Allowance for Structural Modifications	sf	8.0	$32.43	$259
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02750.01	Concrete Pavement, < 8" Depth	cy	0.2	$367.54	$74
02770.07	Concrete Track Curb	lf	2.0	$41.08	$82
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$36
	General Condition Allowance	4.0%			$29
AG21	**At-Grade Dbl Track on Exist. Structure - Embedded, Exclusive**	**RF**	**Route Foot**		**$790**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Single Ballasted LRT w/BC on 2 sides

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	0.03	$75.67	$2
02230.02	Clearing & Grubbing Allowance, Level 2	sy	2.8	$1.03	$3
02310.01	Rough Grading	sf	25.0	$0.70	$18
02310.02	Finish Grading	sf	17.00	$0.86	$15
02310.10	At-Grade Drainage Ditch	lf	1.0	$14.05	$14
02315.02	Embankment	cy	2.8	$16.22	$45
02340.01	Geotextile Fabric	sy	1.9	$2.16	$4
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.0	$4,324.00	$36
02630.09	Trackway Drainage, Ballasted	lf	1.0	$21.62	$22
02820.01	6 ft. Chain Link Fence	lf	1.0	$12.97	$13
05650.01	Subballast	cy	0.4	$44.32	$19
05650.25	Concrete Ballast Curb	lf	2.0	$43.24	$86
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$17
	General Condition Allowance	4.0%			$14
AG44	**At-Grade Single Ballasted LRT w/BC on 2 sides**	**RF**	**Route Foot**		**$380**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Double Ballasted LRT w/BC on 2 sides

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	0.03	$75.67	$2
02230.02	Clearing & Grubbing Allowance, Level 2	sy	5.6	$1.03	$6
02310.01	Rough Grading	sf	50.0	$0.70	$35
02310.02	Finish Grading	sf	34.00	$0.86	$29
02310.10	At-Grade Drainage Ditch	lf	1.0	$14.05	$14
02315.02	Embankment	cy	5.6	$16.22	$90
02340.01	Geotextile Fabric	sy	3.8	$2.16	$8
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.0	$4,324.00	$36
02630.09	Trackway Drainage, Ballasted	lf	1.0	$21.62	$22
02820.01	6 ft. Chain Link Fence	lf	1.0	$12.97	$13
05650.01	Subballast	cy	0.8	$44.32	$37
05650.25	Concrete Ballast Curb	lf	2.0	$43.24	$86
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$23
	General Condition Allowance	4.0%			$18
AG45	**At-Grade Double Ballasted LRT w/BC on 2 sides**	**RF**	**Route Foot**		**$492**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway; New Alignment - Single Lane

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	2.1	$1.03	$2
02310.02	Finish Grading	sf	18.5	$0.86	$16
02315.01	Excavation w/haul	cy	1.9	$14.05	$26
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	1.1	$32.43	$36
02750.02	Concrete Pavement, > 8" Depth	cy	0.3	$259.44	$71
02766.01	Misc. Signing and Striping, Roadway Median	lf	2.0	$2.16	$4
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02840.05	Concrete Barrier Wall	lf	2.0	$56.21	$112
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$20
	General Condition Allowance	4.0%			$16
DB01	**Dedicated Busway; New Alignment - Single Lane**	**RF**	**Route Foot**		**$444**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway; New Alignment - Double Lane

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	4.1	$1.03	$4
02310.02	Finish Grading	sf	37.0	$0.86	$32
02315.01	Excavation w/haul	cy	3.8	$14.05	$53
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02840.05	Concrete Barrier Wall	lf	2.0	$56.21	$112
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$28
	General Condition Allowance	4.0%			$23
DB02	**Dedicated Busway; New Alignment - Double Lane**	**RF**	**Route Foot**		**$614**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway; Existing Roadway - Single Lane

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.01	Sawcut Asphalt Pavement	lf	2.0	$3.78	$8
02220.05	Asphalt Pavement Removal	sy	2.1	$7.57	$16
02310.02	Finish Grading	sf	18.5	$0.86	$16
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	1.1	$32.43	$36
02750.02	Concrete Pavement, > 8" Depth	cy	0.3	$259.44	$71
02766.01	Misc. Signing and Striping, Roadway Median	lf	2.0	$2.16	$4
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02840.05	Concrete Barrier Wall	lf	2.0	$56.21	$112
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$28
	General Condition Allowance	4.0%			$22
DB03	**Dedicated Busway; Existing Roadway - Single Lane**	**RF**	**Route Foot**		**$603**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Guideway:
Dedicated Busway; Existing Roadway - Double Lane

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.01	Sawcut Asphalt Pavement	lf	2.0	$3.78	$8
02220.05	Asphalt Pavement Removal	sy	4.1	$7.57	$31
02310.02	Finish Grading	sf	37.0	$0.86	$32
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	4.4	$32.43	$143
02750.02	Concrete Pavement, > 8" Depth	cy	1.1	$259.44	$284
02766.01	Misc. Signing and Striping, Roadway Median	lf	8.0	$2.16	$17
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02840.05	Concrete Barrier Wall	lf	2.0	$56.21	$112
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$46
	General Condition Allowance	4.0%			$37
DB04	**Dedicated Busway; Existing Roadway - Double Lane**	**RF**	**Route Foot**		**$1,002**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway; Existing Roadway - Single Lane w/o Pavement Reconstruction

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.01	Sawcut Asphalt Pavement	lf	0.0	$3.78	$0
02220.05	Asphalt Pavement Removal	sy	0.0	$7.57	$0
02310.02	Finish Grading	sf	0.0	$0.86	$0
02630.01	Pavement Drainage, Allowance	lf	0.0	$81.08	$0
02720.02	Aggregate Base	cy	0.0	$32.43	$0
02750.02	Concrete Pavement, > 8" Depth	cy	0.0	$259.44	$0
02766.01	Misc. Signing and Striping, Roadway Median	lf	2.0	$2.16	$4
02770.02	Concrete Curb	lf	0.0	$12.97	$0
02840.05	Concrete Barrier Wall	lf	2.0	$56.21	$112
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$15
	General Condition Allowance	4.0%			$12
DB06	**Dedicated Busway; Existing Roadway - Single Lane w/o Paveme**	**RF**	**Route Foot**		**$328**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Arterial Median w/o Thru Lanes

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02220.01	Sawcut Asphalt Pavement	lf	2.0	$3.78	$8
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.7	$1.03	$4
02310.02	Finish Grading	sf	33.0	$0.86	$29
02315.01	Excavation w/haul	cy	3.4	$14.05	$47
02720.02	Aggregate Base	cy	0.9	$32.43	$28
02740.05	Asphalt Concrete Pavement	tn	0.8	$86.48	$72
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02770.10	Concrete Rumble Strip	lf	2.0	$23.78	$48
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$14
	General Condition Allowance	4.0%			$11
DB14	**Dedicated Busway - Arterial Median w/o Thru Lanes**	**RF**	**Route Foot**		**$301**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Arterial Median w Thru Lanes

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
	Busway Lanes				
02220.01	Sawcut Asphalt Pavement	lf	2.0	$3.78	$8
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.7	$1.03	$4
02310.02	Finish Grading	sf	33.0	$0.86	$29
02315.01	Excavation w/haul	cy	3.4	$14.05	$47
02720.02	Aggregate Base	cy	0.9	$32.43	$28
02740.05	Asphalt Concrete Pavement	tn	0.8	$86.48	$72
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02770.10	Concrete Rumble Strip	lf	2.0	$23.78	$48
16500.06	Lighting, Roadway	lf	0.00	$32.43	$0
	Thru Lanes				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.0	$1.03	$3
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	2.8	$14.05	$39
02720.02	Aggregate Base	cy	0.8	$32.43	$24
02740.05	Asphalt Concrete Pavement	tn	0.8	$86.48	$72
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02770.02	Concrete Curb	lf	2.0	$12.97	$26
	Mobilization Allowance	5.0%			$23
	General Condition Allowance	4.0%			$19
DB15	**Dedicated Busway - Arterial Median w Thru Lanes**	**RF**	**Route Foot**		**$507**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Arterial Median w/ barrier wall

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
	Busway Lanes				
02220.01	Sawcut Asphalt Pavement	lf	2.0	$3.78	$8
02230.02	Clearing & Grubbing Allowance, Level 2	sy	4.1	$1.03	$4
02310.02	Finish Grading	sf	37.0	$0.86	$32
02315.01	Excavation w/haul	cy	3.8	$14.05	$53
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	0.9	$32.43	$30
02740.05	Asphalt Concrete Pavement	tn	1.1	$86.48	$93
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02840.05	Concrete Barrier Wall	lf	2.00	$56.21	$112
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Thru Lanes				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.0	$1.03	$3
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	2.8	$14.05	$39
02720.02	Aggregate Base	cy	0.8	$32.43	$24
02740.05	Asphalt Concrete Pavement	tn	0.8	$86.48	$72
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02770.02	Concrete Curb	lf	2.0	$12.97	$26
	Mobilization Allowance	5.0%			$34
	General Condition Allowance	4.0%			$27
DB16	**Dedicated Busway - Arterial Median w/ barrier wall**	**RF**	**Route Foot**		**$737**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Arterial Median w Landscaping

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
	Busway Lanes				
02220.01	Sawcut Asphalt Pavement	lf	2.0	$3.78	$8
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.7	$1.03	$4
02310.02	Finish Grading	sf	33.0	$0.86	$29
02315.01	Excavation w/haul	cy	3.4	$14.05	$47
02720.02	Aggregate Base	cy	0.9	$32.43	$28
02740.05	Asphalt Concrete Pavement	tn	0.8	$86.48	$72
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02770.02	Concrete Curb	lf	4.00	$12.97	$52
02770.10	Concrete Rumble Strip	lf	2.0	$23.78	$48
02900.02	Landscaping Allowance, Level 2	rf	20.0	$43.24	$865
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Thru Lanes				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.0	$1.03	$3
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	2.8	$14.05	$39
02720.02	Aggregate Base	cy	0.8	$32.43	$24
02740.05	Asphalt Concrete Pavement	tn	0.8	$86.48	$72
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02770.02	Concrete Curb	lf	2.0	$12.97	$26
	Mobilization Allowance	5.0%			$69
	General Condition Allowance	4.0%			$56
DB17	**Dedicated Busway - Arterial Median w Landscaping**	**RF**	**Route Foot**		**$1,514**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Arterial Curb Lanes

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02220.01	Sawcut Asphalt Pavement	lf	2.0	$3.78	$8
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.7	$1.03	$4
02310.02	Finish Grading	sf	33.0	$0.86	$29
02315.01	Excavation w/haul	cy	3.4	$14.05	$47
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	0.9	$32.43	$28
02740.05	Asphalt Concrete Pavement	tn	0.8	$86.48	$72
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02770.10	Concrete Rumble Strip	lf	2.0	$23.78	$48
16500.06	Lighting, Roadway	lf	1.00	$32.43	$32
	Mobilization Allowance	5.0%			$18
	General Condition Allowance	4.0%			$14
DB18	**Dedicated Busway - Arterial Curb Lanes**	**RF**	**Route Foot**		**$389**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Double Lane, Embankment (5' Avg.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	5.1	$1.03	$5
02310.02	Finish Grading	sf	37.0	$0.86	$32
02315.01	Excavation w/haul	cy	3.8	$14.05	$53
02315.02	Embankment	cy	3.8	$16.22	$62
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02840.05	Concrete Barrier Wall	lf	2.0	$56.21	$112
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$31
	General Condition Allowance	4.0%			$25
DB22	**Dedicated Busway - Double Lane, Embankment (5' Avg.)**	**RF**	**Route Foot**		**$683**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Three Lanes, Embankment (5' Avg.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	7.2	$1.03	$7
02310.02	Finish Grading	sf	55.5	$0.86	$48
02315.01	Excavation w/haul	cy	5.7	$14.05	$79
02315.02	Embankment	cy	5.4	$16.22	$87
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	3.3	$32.43	$108
02750.02	Concrete Pavement, > 8" Depth	cy	0.8	$259.44	$213
02766.01	Misc. Signing and Striping, Roadway Median	lf	6.0	$2.16	$13
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02840.05	Concrete Barrier Wall	lf	2.0	$56.21	$112
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$40
	General Condition Allowance	4.0%			$32
DB23	**Dedicated Busway - Three Lanes, Embankment (5' Avg.)**	**RF**	**Route Foot**		**$880**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Retained Cut, One Side (Avg. 10' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	13.0	$86.48	$1,124
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	6.7	$14.05	$94
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	1.0	$16.22	$16
09000.10	Architectural Treatment, Retaining Wall	sf	10.0	$16.22	$162
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$89
	General Condition Allowance	4.0%			$72
DB24	**Dedicated Busway - Retained Cut, One Side (Avg. 10' Depth)**	**RF**	**Route Foot**		**$1,950**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Retained Cut, One Side (Avg. 20' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	23.0	$86.48	$1,989
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	12.2	$14.05	$172
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	1.0	$16.22	$16
09000.10	Architectural Treatment, Retaining Wall	sf	20.0	$16.22	$324
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$145
	General Condition Allowance	4.0%			$116
DB25	**Dedicated Busway - Retained Cut, One Side (Avg. 20' Depth)**	**RF**	**Route Foot**		**$3,154**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Retained Cut, Two Side (Avg. 10' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	26.0	$86.48	$2,248
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	13.3	$14.05	$187
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
09000.10	Architectural Treatment, Retaining Wall	sf	20.0	$16.22	$324
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$159
	General Condition Allowance	4.0%			$127
DB26	**Dedicated Busway - Retained Cut, Two Side (Avg. 10' Depth)**	**RF**	**Route Foot**		**$3,472**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Retained Cut, Two Side (Avg. 20' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	46.0	$86.48	$3,978
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	24.4	$14.05	$344
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
09000.10	Architectural Treatment, Retaining Wall	sf	40.0	$16.22	$649
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$270
	General Condition Allowance	4.0%			$216
DB27	**Dedicated Busway - Retained Cut, Two Side (Avg. 20' Depth)**	**RF**	**Route Foot**		**$5,881**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Double Lane, Ret Fill (5' Avg.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	4.1	$1.03	$4
02310.02	Finish Grading	sf	37.0	$0.86	$32
02315.01	Excavation w/haul	cy	3.8	$14.05	$53
02315.11	Structural Backfill	cy	3.1	$27.03	$83
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02830.01	Reinforced Earth Walls (MSE)	sf	11.0	$34.59	$381
02840.05	Concrete Barrier Wall	lf	2.0	$56.21	$112
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$51
	General Condition Allowance	4.0%			$41
DB32	**Dedicated Busway - Double Lane, Ret Fill (5' Avg.)**	**RF**	**Route Foot**		**$1,120**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Single Lane, Ret Fill (10' Avg.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	2.1	$1.03	$2
02310.02	Finish Grading	sf	18.5	$0.86	$16
02315.01	Excavation w/haul	cy	1.9	$14.05	$26
02315.11	Structural Backfill	cy	1.5	$27.03	$42
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	1.1	$32.43	$36
02750.02	Concrete Pavement, > 8" Depth	cy	0.3	$259.44	$71
02766.01	Misc. Signing and Striping, Roadway Median	lf	2.0	$2.16	$4
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02830.01	Reinforced Earth Walls (MSE)	sf	24.0	$34.59	$830
02840.05	Concrete Barrier Wall	lf	2.0	$56.21	$112
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$64
	General Condition Allowance	4.0%			$51
DB33	**Dedicated Busway - Single Lane, Ret Fill (10' Avg.)**	**RF**	**Route Foot**		**$1,395**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Retained Cut, One Side (Avg. 25' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	28.0	$86.48	$2,421
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	15.0	$14.05	$211
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	1.0	$16.22	$16
09000.10	Architectural Treatment, Retaining Wall	sf	25.0	$16.22	$405
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$172
	General Condition Allowance	4.0%			$138
DB36	**Dedicated Busway - Retained Cut, One Side (Avg. 25' Depth)**	**RF**	**Route Foot**		**$3,757**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Retained Cut, Two Side (Avg. 50' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	110.0	$86.48	$9,513
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	61.1	$14.05	$859
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
09000.10	Architectural Treatment, Retaining Wall	sf	100.0	$16.22	$1,622
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$621
	General Condition Allowance	4.0%			$497
DB37	**Dedicated Busway - Retained Cut, Two Side (Avg. 50' Depth)**	**RF**	**Route Foot**		**$13,536**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Double Lane, Ret Fill (20' Avg.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	4.1	$1.03	$4
02310.02	Finish Grading	sf	37.0	$0.86	$32
02315.01	Excavation w/haul	cy	3.8	$14.05	$53
02315.11	Structural Backfill	cy	24.7	$27.03	$667
02630.01	Pavement Drainage, Allowance	lf	1.0	$81.08	$81
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02830.01	Reinforced Earth Walls (MSE)	sf	41.0	$34.59	$1,418
02840.05	Concrete Barrier Wall	lf	2.0	$56.21	$112
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$132
	General Condition Allowance	4.0%			$106
DB42	**Dedicated Busway - Double Lane, Ret Fill (20' Avg.)**	**RF**	**Route Foot**		**$2,887**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Double Lane, Portal Structure (15' Avg.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02230.01	Clearing & Grubbing Allowance, Level 1	sy	4.2	$0.70	$3
02250.01	Steel Sheet Pile	sf	30.0	$43.24	$1,297
02310.01	Rough Grading	sf	42.0	$0.70	$30
02310.02	Finish Grading	sf	38.0	$0.86	$33
02315.20	Cut & Cover Excavation	cy	21.1	$32.43	$685
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.02	Underdrains	lf	2.0	$8.65	$17
02630.11	Trackway Drainage, Tunnel	lf	2.0	$91.89	$184
03210.01	Reinforcing Steel	lb	1,485.2	$1.24	$1,846
03300.08	CIPC, C&C Slab on Grade	cy	4.9	$410.78	$2,023
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	2.5	$475.64	$1,189
07130.21	Sheet Waterproofing	sf	67.0	$6.49	$435
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
16130.23	Ductbank, Tunnel Guideway	lf	1.0	$75.67	$76
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$414
	General Condition Allowance	4.0%			$331
DB52	**Dedicated Busway - Double Lane, Portal Structure (15' Avg.)**	**RF**	**Route Foot**		**$9,032**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Double Lane, Cut & Cover (20' Avg.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02230.01	Clearing & Grubbing Allowance, Level 1	sy	4.2	$0.70	$3
02250.01	Steel Sheet Pile	sf	40.0	$43.24	$1,730
02310.01	Rough Grading	sf	42.0	$0.70	$30
02310.02	Finish Grading	sf	38.0	$0.86	$33
02315.20	Cut & Cover Excavation	cy	28.1	$32.43	$913
02315.21	Cut & Cover Backfill	cy	3.5	$37.84	$133
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.02	Underdrains	lf	2.0	$8.65	$17
02630.11	Trackway Drainage, Tunnel	lf	2.0	$91.89	$184
03210.01	Reinforcing Steel	lb	2,338.9	$1.24	$2,908
03300.08	CIPC, C&C Slab on Grade	cy	4.9	$410.78	$2,023
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	2.5	$475.64	$1,189
03300.11	CIPC, C&C Interior Walls	cy	0.8	$572.93	$430
03300.12	CIPC, C&C Roof Slab	cy	3.5	$702.65	$2,472
07130.21	Sheet Waterproofing	sf	115.0	$6.49	$746
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
15700.02	Subsurface Ventilation	lf	1.0	$681.03	$681
16130.23	Ductbank, Tunnel Guideway	lf	1.0	$75.67	$76
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$702
	General Condition Allowance	4.0%			$561
DB56	**Dedicated Busway - Double Lane, Cut & Cover (20' Avg.)**	**RF**	**Route Foot**		**$15,299**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Single Lane Tunnel
Single Bore (20'-0" I.D.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE FOOT				
02410.02	Tunnel Excavation & Support, TBM	cy	24.3	$286.47	$6,964
02410.10	Contact Grouting	cf	8.4	$12.97	$109
02410.20	CIPC, Tunnel	cy	1.0	$1,081.00	$1,081
02410.22	Precast Tunnel Lining Segments	sf	63.5	$32.43	$2,058
02410.45	Tunnel Construction Instrumentation	lf	1.0	$70.27	$70
02410.50	Temporary Air, Water, Ventilation	lf	1.0	$27.03	$27
02630.11	Trackway Drainage, Tunnel	lf	1.0	$91.89	$92
02720.02	Aggregate Base	cy	1.2	$32.43	$39
02750.02	Concrete Pavement, > 8" Depth	cy	0.3	$259.44	$78
05520.05	Safety Railing	lf	1.0	$27.03	$27
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
15700.02	Subsurface Ventilation	lf	1.0	$681.03	$681
16130.23	Ductbank, Tunnel Guideway	lf	1.0	$75.67	$76
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$585
	General Condition Allowance	4.0%			$468
DB57	**Dedicated Busway - Single Lane Tunnel**	**RF**	**Route Foot**		**$12,754**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Double Lane Tunnel
Single Bore (36'-8" I.D.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE FOOT				
02410.02	Tunnel Excavation & Support, TBM	cy	44.2	$286.47	$12,662
02410.10	Contact Grouting	cf	15.3	$12.97	$198
02410.20	CIPC, Tunnel	cy	1.0	$1,081.00	$1,081
02410.22	Precast Tunnel Lining Segments	sf	115.4	$32.43	$3,742
02410.45	Tunnel Construction Instrumentation	lf	1.0	$70.27	$70
02410.50	Temporary Air, Water, Ventilation	lf	1.0	$27.03	$27
02630.11	Trackway Drainage, Tunnel	lf	1.0	$91.89	$92
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
05520.05	Safety Railing	lf	1.0	$27.03	$27
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
15700.02	Subsurface Ventilation	lf	1.0	$681.03	$681
16130.23	Ductbank, Tunnel Guideway	lf	1.0	$75.67	$76
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$963
	General Condition Allowance	4.0%			$771
DB58	**Dedicated Busway - Double Lane Tunnel**	**RF**	**Route Foot**		**$21,002**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Double Lane Tunnel thru C&C Station
Single Bore (36'-8" I.D.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE FOOT				
02410.02	Tunnel Excavation & Support, TBM	cy	44.2	$286.47	$12,662
02410.10	Contact Grouting	cf	15.3	$12.97	$198
02410.20	CIPC, Tunnel	cy	0.0	$1,081.00	$0
02410.23	Tunnel Lining -Temporary	sf	115.4	$19.46	$2,245
02410.45	Tunnel Construction Instrumentation	lf	1.0	$70.27	$70
02410.50	Temporary Air, Water, Ventilation	lf	1.0	$27.03	$27
02630.11	Trackway Drainage, Tunnel	lf	1.0	$91.89	$92
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
05520.05	Safety Railing	lf	0.0	$27.03	$0
10100.03	Signage, Guideway Allowance	lf	0.0	$12.97	$0
15300.01	Fire Protection Piping, Tunnel	lf	0.0	$237.82	$0
15700.02	Subsurface Ventilation	lf	0.0	$681.03	$0
16130.23	Ductbank, Tunnel Guideway	lf	0.0	$75.67	$0
16500.04	Lighting, Underground Guideway	lf	0.0	$147.02	$0
	Mobilization Allowance	5.0%			$775
	General Condition Allowance	4.0%			$620
DB59	**Dedicated Busway - Double Lane Tunnel thru C&C Station**	**RF**	**Route Foot**		**$16,905**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Double Lane, Bridge Structure

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON CLEAR SPAN OF 140 ft. (Includes abutments)				
01560.01	Traffic Control Allowance, Level 1	rf	140.0	$75.67	$10,594
02230.01	Clearing & Grubbing Allowance, Level 1	sy	100.0	$0.70	$70
02250.01	Steel Sheet Pile	sf	880.0	$43.24	$38,051
02315.10	Structural Excavation	cy	85.0	$16.22	$1,378
02315.11	Structural Backfill	cy	30.0	$27.03	$811
02455.05	Driven Steel H-Piling	vlf	1,320.0	$32.43	$42,808
02630.12	Trackway Drainage, Aerial	lf	140.0	$54.05	$7,567
03210.01	Reinforcing Steel	lb	46,240.0	$1.24	$57,483
03300.01	CIPC, Footings	cy	30.6	$356.73	$10,916
03300.03	CIPC, Walls	cy	48.9	$702.65	$34,360
03300.06	CIPC, Parapet	cy	31.1	$756.70	$23,533
03300.16	CIPC, Aerial Deck Slab	cy	120.6	$767.51	$92,562
03400.03	Precast Prestressed I Beams	lf	1,120.0	$145.94	$163,447
05820.01	Elastomeric Bearing Pads	ea	16.0	$648.60	$10,378
	Mobilization Allowance	5.0%			$24,698
	General Condition Allowance	4.0%			$19,758
	TOTAL COST PER 140 FEET				**$538,414**
DB62	**Dedicated Busway - Double Lane, Bridge Structure**	**RF**	**Route Linear Foot**		**$3,846**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Three Lanes, Bridge Structure

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON CLEAR SPAN OF 140 ft. (Includes abutments)				
01560.01	Traffic Control Allowance, Level 1	rf	140.0	$75.67	$10,594
02230.01	Clearing & Grubbing Allowance, Level 1	sy	150.0	$0.70	$105
02250.01	Steel Sheet Pile	sf	1,320.0	$43.24	$57,077
02315.10	Structural Excavation	cy	127.5	$16.22	$2,067
02315.11	Structural Backfill	cy	45.0	$27.03	$1,216
02455.05	Driven Steel H-Piling	vlf	1,980.0	$32.43	$64,211
02630.12	Trackway Drainage, Aerial	lf	140.0	$54.05	$7,567
03210.01	Reinforcing Steel	lb	66,250.0	$1.24	$82,359
03300.01	CIPC, Footings	cy	45.9	$356.73	$16,374
03300.03	CIPC, Walls	cy	73.4	$702.65	$51,539
03300.06	CIPC, Parapet	cy	31.1	$756.70	$23,533
03300.16	CIPC, Aerial Deck Slab	cy	180.9	$767.51	$138,843
03400.03	Precast Prestressed I Beams	lf	1,680.0	$145.94	$245,171
05820.01	Elastomeric Bearing Pads	ea	24.0	$648.60	$15,566
	Mobilization Allowance	5.0%			$35,811
	General Condition Allowance	4.0%			$28,649
	TOTAL COST PER 140 FEET				**$780,683**
DB63	**Dedicated Busway - Three Lanes, Bridge Structure**	**RF**	**Route Linear Foot**		**$5,576**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Four Lanes, Bridge Structure

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON CLEAR SPAN OF 140 ft. (Includes abutments)				
01560.01	Traffic Control Allowance, Level 1	rf	140.0	$75.67	$10,594
02230.01	Clearing & Grubbing Allowance, Level 1	sy	200.0	$0.70	$141
02250.01	Steel Sheet Pile	sf	1,760.0	$43.24	$76,102
02315.10	Structural Excavation	cy	170.0	$16.22	$2,757
02315.11	Structural Backfill	cy	60.0	$27.03	$1,622
02455.05	Driven Steel H-Piling	vlf	2,640.0	$32.43	$85,615
02630.12	Trackway Drainage, Aerial	lf	140.0	$54.05	$7,567
03210.01	Reinforcing Steel	lb	86,260.0	$1.24	$107,234
03300.01	CIPC, Footings	cy	61.2	$356.73	$21,832
03300.03	CIPC, Walls	cy	97.8	$702.65	$68,719
03300.06	CIPC, Parapet	cy	31.1	$756.70	$23,533
03300.16	CIPC, Aerial Deck Slab	cy	241.2	$767.51	$185,123
03400.03	Precast Prestressed I Beams	lf	2,240.0	$145.94	$326,894
05820.01	Elastomeric Bearing Pads	ea	32.0	$648.60	$20,755
	Mobilization Allowance	5.0%			$46,924
	General Condition Allowance	4.0%			$37,540
	TOTAL COST PER 140 FEET				**$1,022,952**
DB64	**Dedicated Busway - Four Lanes, Bridge Structure**	**RF**	**Route Linear Foot**		**$7,307**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Precast Box Girder (Avg. Pier 20' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	12,292.0	$1.24	$15,281
03300.14	CIPC, Aerial Pier	cy	12.6	$648.60	$8,172
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.24	Precast Segmental Box Girder, Double	lf	120.0	$1,621.50	$194,580
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
	Mobilization Allowance	5.0%			$31,832
	General Condition Allowance	4.0%			$25,466
	TOTAL COST PER 120 FEET				**$693,941**
DB72	**Dedicated Busway - Precast Box Girder (Avg. Pier 20' Ht.)**	**RF**	**Route Linear Foot**		**$5,783**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Precast Box Girder (Avg. Pier 30' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	15,432.0	$1.24	$19,184
03300.14	CIPC, Aerial Pier	cy	28.3	$648.60	$18,355
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.24	Precast Segmental Box Girder, Double	lf	120.0	$1,621.50	$194,580
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
	Mobilization Allowance	5.0%			$32,536
	General Condition Allowance	4.0%			$26,029
	TOTAL COST PER 120 FEET				**$709,295**
DB73	**Dedicated Busway - Precast Box Girder (Avg. Pier 30' Ht.)**	**RF**	**Route Linear Foot**		**$5,911**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Precast Box Girder (Avg. Pier 40' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	19,092.0	$1.24	$23,734
03300.14	CIPC, Aerial Pier	cy	46.6	$648.60	$30,225
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.24	Precast Segmental Box Girder, Double	lf	120.0	$1,621.50	$194,580
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
	Mobilization Allowance	5.0%			$33,357
	General Condition Allowance	4.0%			$26,686
	TOTAL COST PER 120 FEET				**$727,192**
DB74	**Dedicated Busway - Precast Box Girder (Avg. Pier 40' Ht.)**	**RF**	**Route Linear Foot**		**$6,060**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dedicated Busway - Precast Box Girder (Avg. Pier 50' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	23,352.0	$1.24	$29,030
03300.14	CIPC, Aerial Pier	cy	67.9	$648.60	$44,040
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.24	Precast Segmental Box Girder, Double	lf	120.0	$1,621.50	$194,580
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
	Mobilization Allowance	5.0%			$34,313
	General Condition Allowance	4.0%			$27,450
	TOTAL COST PER 120 FEET				**$748,023**
DB75	**Dedicated Busway - Precast Box Girder (Avg. Pier 50' Ht.)**	**RF**	**Route Linear Foot**		**$6,234**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Mixed Flow Busway - Single Lane

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.01	Sawcut Asphalt Pavement	lf	2.0	$3.78	$8
02220.05	Asphalt Pavement Removal	sy	2.1	$7.57	$16
02310.02	Finish Grading	sf	18.5	$0.86	$16
02720.02	Aggregate Base	cy	1.1	$32.43	$36
02750.02	Concrete Pavement, > 8" Depth	cy	0.3	$259.44	$71
02766.01	Misc. Signing and Striping, Roadway Median	lf	2.0	$2.16	$4
	Mobilization Allowance	5.0%			$15
	General Condition Allowance	4.0%			$12
MB01	**Mixed Flow Busway - Single Lane**	**RF**	**Route Foot**		**$329**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Mixed Flow Busway - Double Lane

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.01	Sawcut Asphalt Pavement	lf	2.0	$3.78	$8
02220.05	Asphalt Pavement Removal	sy	4.1	$7.57	$31
02310.02	Finish Grading	sf	37.0	$0.86	$32
02720.02	Aggregate Base	cy	2.2	$32.43	$72
02750.02	Concrete Pavement, > 8" Depth	cy	0.5	$259.44	$142
02766.01	Misc. Signing and Striping, Roadway Median	lf	4.0	$2.16	$9
	Mobilization Allowance	5.0%			$22
	General Condition Allowance	4.0%			$18
MB02	**Mixed Flow Busway - Double Lane**	**RF**	**Route Foot**		**$485**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
TSM Busway - Double Lane

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	0.1894	$151.34	$28.66
02220.01	Sawcut Asphalt Pavement	lf	0.3788	$3.78	$1.43
02220.05	Asphalt Pavement Removal	sy	0.2525	$7.57	$1.91
02310.02	Finish Grading	sf	2.2727	$0.86	$1.97
02730.01	Cement Stabilized Base	cy	0.0842	$64.86	$5.46
02740.01	Asphalt Treated Base	tn	0.0852	$70.27	$5.99
02740.05	Asphalt Concrete Pavement	tn	0.0290	$86.48	$2.51
02766.01	Misc. Signing and Striping, Roadway Median	lf	0.3788	$2.16	$0.82
16700.20	Traffic Signal - Modify Existing	ea	0.0006	$75,670.00	$42.99
	Mobilization Allowance	5.0%			$5
	General Condition Allowance	4.0%			$4
MB05	**TSM Busway - Double Lane**	**RF**	**Route Foot**		**$100**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Track - Roadway Crossing, 2 Tracks

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.01	Sawcut Asphalt Pavement	lf	2.0	$3.78	$8
02220.05	Asphalt Pavement Removal	sy	2.9	$7.57	$22
02310.01	Rough Grading	sf	26.5	$0.70	$19
02310.02	Finish Grading	sf	26.5	$0.86	$23
02315.01	Excavation w/haul	cy	1.5	$14.05	$21
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02720.02	Aggregate Base	cy	0.1	$32.43	$5
02740.05	Asphalt Concrete Pavement	tn	0.1	$86.48	$13
02770.02	Concrete Curb	lf	1.0	$12.97	$13
05650.01	Subballast	cy	0.7	$44.32	$29
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$20
	General Condition Allowance	4.0%			$16
RX02	**At-Grade Track - Roadway Crossing, 2 Tracks**	**RF**	**Route Foot**		**$436**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
At-Grade Track - Roadway Crossing, 3 Tracks

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.01	Sawcut Asphalt Pavement	lf	2.0	$3.78	$8
02220.05	Asphalt Pavement Removal	sy	4.5	$7.57	$34
02310.01	Rough Grading	sf	40.5	$0.70	$28
02310.02	Finish Grading	sf	40.5	$0.86	$35
02315.01	Excavation w/haul	cy	2.3	$14.05	$32
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02720.02	Aggregate Base	cy	0.2	$32.43	$7
02740.05	Asphalt Concrete Pavement	tn	0.2	$86.48	$19
02770.02	Concrete Curb	lf	1.0	$12.97	$13
05650.01	Subballast	cy	1.0	$44.32	$45
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$23
	General Condition Allowance	4.0%			$19
RX03	**At-Grade Track - Roadway Crossing, 3 Tracks**	**RF**	**Route Foot**		**$511**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Cut - One Side (Avg. 10' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	13.0	$86.48	$1,124
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	6.7	$14.05	$94
02340.10	Mud Slab	cy	0.3	$162.15	$54
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02770.08	Concrete Grade Beam	lf	1.0	$48.65	$49
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
03210.01	Reinforcing Steel	lb	102.6	$1.24	$128
03300.05	CIPC, Beams	cy	0.3	$799.94	$240
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05650.03	Concrete Track Slab, 8"	sy	3.0	$81.08	$243
09000.10	Architectural Treatment, Retaining Wall	sf	10.0	$16.22	$162
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$127
	General Condition Allowance	4.0%			$102
RC01	**Retained Cut - One Side (Avg. 10' Depth)**	**RF**	**Route Foot**		**$2,767**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Cut - One Side (Avg. 20' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	23.0	$86.48	$1,989
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	12.2	$14.05	$172
02340.10	Mud Slab	cy	0.3	$162.15	$54
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02770.08	Concrete Grade Beam	lf	1.0	$48.65	$49
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
03210.01	Reinforcing Steel	lb	102.6	$1.24	$128
03300.05	CIPC, Beams	cy	0.3	$799.94	$240
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05650.03	Concrete Track Slab, 8"	sy	3.0	$81.08	$243
09000.10	Architectural Treatment, Retaining Wall	sf	20.0	$16.22	$324
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$182
	General Condition Allowance	4.0%			$146
RC02	**Retained Cut - One Side (Avg. 20' Depth)**	**RF**	**Route Foot**		**$3,972**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Cut - One Side (Avg. 30' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	33.0	$86.48	$2,854
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	16.3	$14.05	$229
02340.10	Mud Slab	cy	0.3	$162.15	$54
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02770.08	Concrete Grade Beam	lf	1.0	$48.65	$49
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
03210.01	Reinforcing Steel	lb	102.6	$1.24	$128
03300.05	CIPC, Beams	cy	0.3	$799.94	$240
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05650.03	Concrete Track Slab, 8"	sy	3.0	$81.08	$243
09000.10	Architectural Treatment, Retaining Wall	sf	30.0	$16.22	$486
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$236
	General Condition Allowance	4.0%			$189
RC03	**Retained Cut - One Side (Avg. 30' Depth)**	**RF**	**Route Foot**		**$5,154**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Cut - One Side (Avg. 25' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	28.0	$86.48	$2,421
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	15.0	$14.05	$211
02340.10	Mud Slab	cy	0.3	$162.15	$54
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02770.08	Concrete Grade Beam	lf	1.0	$48.65	$49
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
03210.01	Reinforcing Steel	lb	102.6	$1.24	$128
03300.05	CIPC, Beams	cy	0.3	$799.94	$240
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05650.03	Concrete Track Slab, 8"	sy	3.0	$81.08	$243
09000.10	Architectural Treatment, Retaining Wall	sf	25.0	$16.22	$405
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$210
	General Condition Allowance	4.0%			$168
RC04	**Retained Cut - One Side (Avg. 25' Depth)**	**RF**	**Route Foot**		**$4,574**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Cut - Two Side (Avg. 10' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	26.0	$86.48	$2,248
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	13.3	$14.05	$187
02340.10	Mud Slab	cy	0.3	$162.15	$54
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
03210.01	Reinforcing Steel	lb	162.6	$1.24	$202
03300.05	CIPC, Beams	cy	0.6	$799.94	$480
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05650.03	Concrete Track Slab, 8"	sy	3.0	$81.08	$243
09000.10	Architectural Treatment, Retaining Wall	sf	20.0	$16.22	$324
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$209
	General Condition Allowance	4.0%			$167
RC11	**Retained Cut - Two Side (Avg. 10' Depth)**	**RF**	**Route Foot**		**$4,561**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Cut - Two Side (Avg. 20' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	46.0	$86.48	$3,978
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	24.4	$14.05	$344
02340.10	Mud Slab	cy	0.3	$162.15	$54
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
03210.01	Reinforcing Steel	lb	162.6	$1.24	$202
03300.05	CIPC, Beams	cy	0.6	$799.94	$480
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05650.03	Concrete Track Slab, 8"	sy	3.0	$81.08	$243
09000.10	Architectural Treatment, Retaining Wall	sf	40.0	$16.22	$649
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$320
	General Condition Allowance	4.0%			$256
RC12	**Retained Cut - Two Side (Avg. 20' Depth)**	**RF**	**Route Foot**		**$6,970**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Cut - Two Side (Avg. 30' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	66.0	$86.48	$5,708
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	32.6	$14.05	$458
02340.10	Mud Slab	cy	0.3	$162.15	$54
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
03210.01	Reinforcing Steel	lb	162.6	$1.24	$202
03300.05	CIPC, Beams	cy	0.6	$799.94	$480
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05650.03	Concrete Track Slab, 8"	sy	3.0	$81.08	$243
09000.10	Architectural Treatment, Retaining Wall	sf	60.0	$16.22	$973
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$428
	General Condition Allowance	4.0%			$343
RC13	**Retained Cut - Two Side (Avg. 30' Depth)**	**RF**	**Route Foot**		**$9,334**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Cut - Two Side (Avg. 50' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	3.3	$1.03	$3
02250.05	Soldier Pile & Lagging	sf	110.0	$86.48	$9,513
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	27.0	$0.86	$23
02315.01	Excavation w/haul	cy	81.5	$14.05	$1,145
02340.10	Mud Slab	cy	0.3	$162.15	$54
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
03210.01	Reinforcing Steel	lb	162.6	$1.24	$202
03300.05	CIPC, Beams	cy	0.6	$799.94	$480
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05650.03	Concrete Track Slab, 8"	sy	3.0	$81.08	$243
09000.10	Architectural Treatment, Retaining Wall	sf	100.0	$16.22	$1,622
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$685
	General Condition Allowance	4.0%			$548
RC15	**Retained Cut - Two Side (Avg. 50' Depth)**	**RF**	**Route Foot**		**$14,937**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Fill - One Side (Avg. 10' Height)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	5.1	$1.03	$5
02310.01	Rough Grading	sf	46.0	$0.70	$32
02310.02	Finish Grading	sf	32.0	$0.86	$28
02315.02	Embankment	cy	3.0	$16.22	$48
02315.10	Structural Excavation	cy	1.3	$16.22	$22
02315.11	Structural Backfill	cy	0.5	$27.03	$14
02340.01	Geotextile Fabric	sy	3.6	$2.16	$8
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.01	Wall Drains	lf	1.0	$10.81	$11
02620.02	Underdrains	lf	1.0	$8.65	$9
02820.01	6 ft. Chain Link Fence	lf	1.0	$12.97	$13
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	1.0	$16.22	$16
02830.01	Reinforced Earth Walls (MSE)	sf	12.0	$34.59	$415
05650.01	Subballast	cy	0.8	$44.32	$35
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$36
	General Condition Allowance	4.0%			$29
RF05	**Retained Fill - One Side (Avg. 10' Height)**	**RF**	**Route Foot**		**$794**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Fill - One Side (Avg. 20' Height)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	5.1	$1.03	$5
02310.01	Rough Grading	sf	46.0	$0.70	$32
02310.02	Finish Grading	sf	32.0	$0.86	$28
02315.02	Embankment	cy	5.9	$16.22	$96
02315.10	Structural Excavation	cy	1.3	$16.22	$22
02315.11	Structural Backfill	cy	0.5	$27.03	$14
02340.01	Geotextile Fabric	sy	3.6	$2.16	$8
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.01	Wall Drains	lf	1.0	$10.81	$11
02620.02	Underdrains	lf	1.0	$8.65	$9
02820.01	6 ft. Chain Link Fence	lf	1.0	$12.97	$13
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	1.0	$16.22	$16
02830.01	Reinforced Earth Walls (MSE)	sf	22.0	$34.59	$761
05650.01	Subballast	cy	0.8	$44.32	$35
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$56
	General Condition Allowance	4.0%			$45
RF06	**Retained Fill - One Side (Avg. 20' Height)**	**RF**	**Route Foot**		**$1,223**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Fill - Single Track, Two Sides (Avg. 10' Height)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.01	Clearing & Grubbing Allowance, Level 1	sy	1.8	$0.70	$1
02310.01	Rough Grading	sf	16.0	$0.70	$11
02310.02	Finish Grading	sf	11.0	$0.86	$10
02315.02	Embankment	cy	4.1	$16.22	$66
02315.10	Structural Excavation	cy	0.4	$16.22	$7
02315.11	Structural Backfill	cy	0.2	$27.03	$5
02340.10	Mud Slab	cy	0.1	$162.15	$22
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02830.01	Reinforced Earth Walls (MSE)	sf	24.0	$34.59	$830
03210.01	Reinforcing Steel	lb	82.6	$1.24	$103
03300.05	CIPC, Beams	cy	0.2	$799.94	$160
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05520.01	Metal Pipe and Cable Railing	lf	2.0	$64.86	$130
05650.03	Concrete Track Slab, 8"	sy	1.2	$81.08	$99
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$90
	General Condition Allowance	4.0%			$72
RF11	**Retained Fill - Single Track, Two Sides (Avg. 10' Height)**	**RF**	**Route Foot**		**$1,958**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Fill - Two Sides (Avg. 5' Height)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.01	Clearing & Grubbing Allowance, Level 1	sy	3.3	$0.70	$2
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	25.0	$0.86	$22
02315.02	Embankment	cy	4.6	$16.22	$75
02315.10	Structural Excavation	cy	0.4	$16.22	$7
02315.11	Structural Backfill	cy	0.2	$27.03	$5
02340.10	Mud Slab	cy	0.3	$162.15	$50
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02830.01	Reinforced Earth Walls (MSE)	sf	14.0	$34.59	$484
03210.01	Reinforcing Steel	lb	82.6	$1.24	$103
03300.05	CIPC, Beams	cy	0.2	$799.94	$160
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05520.01	Metal Pipe and Cable Railing	lf	2.0	$64.86	$130
05650.03	Concrete Track Slab, 8"	sy	2.8	$81.08	$225
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$82
	General Condition Allowance	4.0%			$65
RF20	**Retained Fill - Two Sides (Avg. 5' Height)**	**RF**	**Route Foot**		**$1,783**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Fill - Two Sides (Avg. 10' Height)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.01	Clearing & Grubbing Allowance, Level 1	sy	3.3	$0.70	$2
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	25.0	$0.86	$22
02315.02	Embankment	cy	9.3	$16.22	$150
02315.10	Structural Excavation	cy	0.4	$16.22	$7
02315.11	Structural Backfill	cy	0.2	$27.03	$5
02340.10	Mud Slab	cy	0.3	$162.15	$50
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02830.01	Reinforced Earth Walls (MSE)	sf	24.0	$34.59	$830
03210.01	Reinforcing Steel	lb	82.6	$1.24	$103
03300.05	CIPC, Beams	cy	0.2	$799.94	$160
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05520.01	Metal Pipe and Cable Railing	lf	2.0	$64.86	$130
05650.03	Concrete Track Slab, 8"	sy	2.8	$81.08	$225
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$103
	General Condition Allowance	4.0%			$82
RF21	**Retained Fill - Two Sides (Avg. 10' Height)**	**RF**	**Route Foot**		**$2,242**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Fill - Two Sides (Avg. 20' Height)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.01	Clearing & Grubbing Allowance, Level 1	sy	3.3	$0.70	$2
02310.01	Rough Grading	sf	30.0	$0.70	$21
02310.02	Finish Grading	sf	25.0	$0.86	$22
02315.02	Embankment	cy	18.5	$16.22	$300
02315.10	Structural Excavation	cy	0.4	$16.22	$7
02315.11	Structural Backfill	cy	0.2	$27.03	$5
02340.10	Mud Slab	cy	0.3	$162.15	$50
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
02830.01	Reinforced Earth Walls (MSE)	sf	44.0	$34.59	$1,522
03210.01	Reinforcing Steel	lb	82.6	$1.24	$103
03300.05	CIPC, Beams	cy	0.2	$799.94	$160
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05520.01	Metal Pipe and Cable Railing	lf	2.0	$64.86	$130
05650.03	Concrete Track Slab, 8"	sy	2.8	$81.08	$225
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$145
	General Condition Allowance	4.0%			$116
RF22	**Retained Fill - Two Sides (Avg. 20' Height)**	**RF**	**Route Foot**		**$3,160**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Cut and Fill (Avg. 10' Height)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	5.6	$1.03	$6
02250.01	Steel Sheet Pile	sf	13.0	$43.24	$562
02310.01	Rough Grading	sf	50.0	$0.70	$35
02310.02	Finish Grading	sf	32.0	$0.86	$28
02315.01	Excavation w/haul	cy	3.6	$14.05	$50
02315.02	Embankment	cy	3.6	$16.22	$58
02315.10	Structural Excavation	cy	5.8	$16.22	$94
02315.11	Structural Backfill	cy	4.6	$27.03	$125
02340.01	Geotextile Fabric	sy	3.6	$2.16	$8
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.01	Wall Drains	lf	2.0	$10.81	$22
02620.02	Underdrains	lf	2.0	$8.65	$17
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
03210.01	Reinforcing Steel	lb	461.1	$1.24	$573
03300.01	CIPC, Footings	cy	1.6	$356.73	$581
03300.03	CIPC, Walls	cy	1.4	$702.65	$1,015
05650.01	Subballast	cy	0.8	$44.32	$35
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
CF01	**Retained Cut and Fill (Avg. 10' Height)**	**RF**	**Route Foot**		**$3,300**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Retained Cut and Fill (Avg. 20' Height)
Figure A-12

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	5.6	$1.03	$6
02250.01	Steel Sheet Pile	sf	23.0	$43.24	$995
02310.01	Rough Grading	sf	50.0	$0.70	$35
02310.02	Finish Grading	sf	32.0	$0.86	$28
02315.01	Excavation w/haul	cy	6.5	$14.05	$92
02315.02	Embankment	cy	6.5	$16.22	$106
02315.10	Structural Excavation	cy	9.5	$16.22	$154
02315.11	Structural Backfill	cy	7.6	$27.03	$205
02340.01	Geotextile Fabric	sy	3.6	$2.16	$8
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.01	Wall Drains	lf	2.0	$10.81	$22
02620.02	Underdrains	lf	2.0	$8.65	$17
02820.03	6 ft. Chain Link Fence, Wall Mounted	lf	2.0	$16.22	$32
03210.01	Reinforcing Steel	lb	825.0	$1.24	$1,026
03300.01	CIPC, Footings	cy	2.5	$356.73	$898
03300.03	CIPC, Walls	cy	3.0	$702.65	$2,095
05650.01	Subballast	cy	0.8	$44.32	$35
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
CF02	**Retained Cut and Fill (Avg. 20' Height)**	**RF**	**Route Foot**		**$5,812**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Bridge Structure, Dbl track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON CLEAR SPAN OF 140 ft. (Includes abutments)				
01560.01	Traffic Control Allowance, Level 1	rf	140.0	$75.67	$10,594
02230.01	Clearing & Grubbing Allowance, Level 1	sy	100.0	$0.70	$70
02250.01	Steel Sheet Pile	sf	880.0	$43.24	$38,051
02315.10	Structural Excavation	cy	85.0	$16.22	$1,378
02315.11	Structural Backfill	cy	30.0	$27.03	$811
02465.03	Drilled Shaft, 36" Dia.	vlf	1,320.0	$264.85	$349,595
02630.12	Trackway Drainage, Aerial	lf	140.0	$54.05	$7,567
03210.01	Reinforcing Steel	lb	52,204.0	$1.24	$64,897
03300.01	CIPC, Footings	cy	30.6	$356.73	$10,916
03300.03	CIPC, Walls	cy	48.9	$702.65	$34,360
03300.06	CIPC, Parapet	cy	31.1	$756.70	$23,533
03300.16	CIPC, Aerial Deck Slab	cy	120.6	$767.51	$92,562
03300.20	CIPC, Plinth	cy	29.8	$972.90	$29,012
03400.03	Precast Prestressed I Beams	lf	1,120.0	$145.94	$163,447
05520.01	Metal Pipe and Cable Railing	lf	280.0	$64.86	$18,161
05820.01	Elastomeric Bearing Pads	ea	16.0	$648.60	$10,378
16060.02	Corrosion Control, Aerial	lf	140.0	$2.70	$378
16130.22	Ductbank, Aerial Guideway	lf	140.0	$102.70	$14,377
	Mobilization Allowance	5.0%			$43,504
	General Condition Allowance	4.0%			$34,804
	TOTAL COST PER 140 FEET				**$948,396**
BR02	**Bridge Structure, Dbl track**	**RF**	**Route Linear Foot**		**$6,774**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Bridge Structure, Modification of Existing Superstructure

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON DECK AREA OF 3,200 sq. ft.				
01560.02	Traffic Control Allowance, Level 2	rf	100.0	$151.34	$15,134
02225.10	Allowance for Structural Modifications	sf	3,200.0	$32.43	$103,776
	Mobilization Allowance	5.0%			$5,946
	General Condition Allowance	4.0%			$4,756
	TOTAL COST PER 3,200 SQUARE FOOT				**$129,612**
BR10	**Bridge Structure, Modification of Existing Superstructure**	**SF**	**Square Foot**		**$41**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Single Segmental Box Girder (Avg. Pier 40' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	19,092.0	$1.24	$23,734
03300.14	CIPC, Aerial Pier	cy	46.6	$648.60	$30,225
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.22	Precast Segmental Box Girder, Single	lf	120.0	$864.80	$103,776
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	2.0	$3,891.60	$7,783
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$29,060
	General Condition Allowance	4.0%			$23,248
	TOTAL COST PER 120 FEET				**$633,518**
EL14	**Precast Single Segmental Box Girder (Avg. Pier 40' Ht.)**	**RF**	**Route Linear Foot**		**$5,279**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder (Avg. Pier 20' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	12,292.0	$1.24	$15,281
03300.14	CIPC, Aerial Pier	cy	12.6	$648.60	$8,172
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.24	Precast Segmental Box Girder, Double	lf	120.0	$1,621.50	$194,580
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$32,465
	General Condition Allowance	4.0%			$25,972
	TOTAL COST PER 120 FEET				**$707,727**
EL22	**Precast Segmental Box Girder (Avg. Pier 20' Ht.)**	**RF**	**Route Linear Foot**		**$5,898**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder (Avg. Pier 30' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	15,432.0	$1.24	$19,184
03300.14	CIPC, Aerial Pier	cy	28.3	$648.60	$18,355
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.24	Precast Segmental Box Girder, Double	lf	120.0	$1,621.50	$194,580
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$33,169
	General Condition Allowance	4.0%			$26,535
	TOTAL COST PER 120 FEET				**$723,081**
EL23	**Precast Segmental Box Girder (Avg. Pier 30' Ht.)**	**RF**	**Route Linear Foot**		**$6,026**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder (Avg. Pier 40' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	19,092.0	$1.24	$23,734
03300.14	CIPC, Aerial Pier	cy	46.6	$648.60	$30,225
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.24	Precast Segmental Box Girder, Double	lf	120.0	$1,621.50	$194,580
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$33,990
	General Condition Allowance	4.0%			$27,192
	TOTAL COST PER 120 FEET				**$740,978**
EL24	**Precast Segmental Box Girder (Avg. Pier 40' Ht.)**	**RF**	**Route Linear Foot**		**$6,175**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder (Avg. Pier 50' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	23,352.0	$1.24	$29,030
03300.14	CIPC, Aerial Pier	cy	67.9	$648.60	$44,040
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.24	Precast Segmental Box Girder, Double	lf	120.0	$1,621.50	$194,580
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$34,945
	General Condition Allowance	4.0%			$27,956
	TOTAL COST PER 120 FEET				**$761,809**
EL25	**Precast Segmental Box Girder (Avg. Pier 50' Ht.)**	**RF**	**Route Linear Foot**		**$6,348**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder (Avg. Pier 60' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	28,392.0	$1.24	$35,296
03300.14	CIPC, Aerial Pier	cy	93.1	$648.60	$60,385
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.24	Precast Segmental Box Girder, Double	lf	120.0	$1,621.50	$194,580
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$36,076
	General Condition Allowance	4.0%			$28,861
	TOTAL COST PER 120 FEET				**$786,454**
EL26	**Precast Segmental Box Girder (Avg. Pier 60' Ht.)**	**RF**	**Route Linear Foot**		**$6,554**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder (Avg. Pier 70' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	34,152.0	$1.24	$42,456
03300.14	CIPC, Aerial Pier	cy	121.9	$648.60	$79,064
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.24	Precast Segmental Box Girder, Double	lf	120.0	$1,621.50	$194,580
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$37,368
	General Condition Allowance	4.0%			$29,894
	TOTAL COST PER 120 FEET				**$814,620**
EL27	**Precast Segmental Box Girder (Avg. Pier 70' Ht.)**	**RF**	**Route Linear Foot**		**$6,789**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 20' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	240.0	$54.05	$12,972
03210.01	Reinforcing Steel	lb	18,172.0	$1.24	$22,591
03300.14	CIPC, Aerial Pier	cy	22.6	$648.60	$14,658
03300.15	CIPC, Aerial Pier Cap	cy	42.7	$702.65	$30,003
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.22	Precast Segmental Box Girder, Single	lf	240.0	$864.80	$207,552
05520.01	Metal Pipe and Cable Railing	lf	480.0	$64.86	$31,133
05820.02	Disk Bearing, (200 Kip)	ea	8.0	$2,594.40	$20,755
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$35,847
	General Condition Allowance	4.0%			$28,677
	TOTAL COST PER 120 FEET				**$781,455**
EL32	**Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 20' Ht.)**	**RF**	**Route Linear Foot**		**$6,512**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 30' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	240.0	$54.05	$12,972
03210.01	Reinforcing Steel	lb	21,492.0	$1.24	$26,718
03300.14	CIPC, Aerial Pier	cy	39.2	$648.60	$25,425
03300.15	CIPC, Aerial Pier Cap	cy	42.7	$702.65	$30,003
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.22	Precast Segmental Box Girder, Single	lf	240.0	$864.80	$207,552
05520.01	Metal Pipe and Cable Railing	lf	480.0	$64.86	$31,133
05820.02	Disk Bearing, (200 Kip)	ea	8.0	$2,594.40	$20,755
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$36,591
	General Condition Allowance	4.0%			$29,273
	TOTAL COST PER 120 FEET				**$797,689**
EL33	**Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 30' Ht.)**	**RF**	**Route Linear Foot**		**$6,647**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 40' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	240.0	$54.05	$12,972
03210.01	Reinforcing Steel	lb	25,352.0	$1.24	$31,516
03300.14	CIPC, Aerial Pier	cy	58.5	$648.60	$37,943
03300.15	CIPC, Aerial Pier Cap	cy	42.7	$702.65	$30,003
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.22	Precast Segmental Box Girder, Single	lf	240.0	$864.80	$207,552
05520.01	Metal Pipe and Cable Railing	lf	480.0	$64.86	$31,133
05820.02	Disk Bearing, (200 Kip)	ea	8.0	$2,594.40	$20,755
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$37,457
	General Condition Allowance	4.0%			$29,966
	TOTAL COST PER 120 FEET				**$816,564**
EL34	**Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 40' Ht.)**	**RF**	**Route Linear Foot**		**$6,805**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 50' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	240.0	$54.05	$12,972
03210.01	Reinforcing Steel	lb	29,812.0	$1.24	$37,061
03300.14	CIPC, Aerial Pier	cy	80.8	$648.60	$52,407
03300.15	CIPC, Aerial Pier Cap	cy	42.7	$702.65	$30,003
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.22	Precast Segmental Box Girder, Single	lf	240.0	$864.80	$207,552
05520.01	Metal Pipe and Cable Railing	lf	480.0	$64.86	$31,133
05820.02	Disk Bearing, (200 Kip)	ea	8.0	$2,594.40	$20,755
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$38,457
	General Condition Allowance	4.0%			$30,766
	TOTAL COST PER 120 FEET				**$838,373**
EL35	**Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 50' Ht.)**	**RF**	**Route Linear Foot**		**$6,986**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 60' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	240.0	$54.05	$12,972
03210.01	Reinforcing Steel	lb	35,092.0	$1.24	$43,625
03300.14	CIPC, Aerial Pier	cy	107.2	$648.60	$69,530
03300.15	CIPC, Aerial Pier Cap	cy	42.7	$702.65	$30,003
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.22	Precast Segmental Box Girder, Single	lf	240.0	$864.80	$207,552
05520.01	Metal Pipe and Cable Railing	lf	480.0	$64.86	$31,133
05820.02	Disk Bearing, (200 Kip)	ea	8.0	$2,594.40	$20,755
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$39,642
	General Condition Allowance	4.0%			$31,713
	TOTAL COST PER 120 FEET				**$864,192**
EL36	**Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 60' Ht.)**	**RF**	**Route Linear Foot**		**$7,202**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 70' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	240.0	$54.05	$12,972
03210.01	Reinforcing Steel	lb	41,132.0	$1.24	$51,133
03300.14	CIPC, Aerial Pier	cy	137.4	$648.60	$89,118
03300.15	CIPC, Aerial Pier Cap	cy	42.7	$702.65	$30,003
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.22	Precast Segmental Box Girder, Single	lf	240.0	$864.80	$207,552
05520.01	Metal Pipe and Cable Railing	lf	480.0	$64.86	$31,133
05820.02	Disk Bearing, (200 Kip)	ea	8.0	$2,594.40	$20,755
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$40,997
	General Condition Allowance	4.0%			$32,797
	TOTAL COST PER 120 FEET				**$893,727**
EL37	**Twin-Sgl. Precast Segmental Box Girder (Avg. Pier 70' Ht.)**	**RF**	**Route Linear Foot**		**$7,448**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder, Long Span (Avg. Pier 30' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 180 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	180.0	$75.67	$13,621
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.12	Drilled Shaft, 144" Dia.	vlf	100.0	$4,756.40	$475,640
02630.12	Trackway Drainage, Aerial	lf	180.0	$54.05	$9,729
03210.01	Reinforcing Steel	lb	20,952.0	$1.24	$26,046
03300.14	CIPC, Aerial Pier	cy	35.0	$648.60	$22,678
03300.15	CIPC, Aerial Pier Cap	cy	31.5	$702.65	$22,102
03300.20	CIPC, Plinth	cy	38.3	$972.90	$37,301
03410.25	Precast Segmental Box Girder, Double, Long Span	lf	180.0	$2,162.00	$389,160
05520.01	Metal Pipe and Cable Railing	lf	360.0	$64.86	$23,350
05820.04	Disk Bearing, (400 Kip)	ea	4.0	$5,188.80	$20,755
16060.02	Corrosion Control, Aerial	lf	180.0	$2.70	$486
16130.22	Ductbank, Aerial Guideway	lf	180.0	$102.70	$18,485
	Mobilization Allowance	5.0%			$52,989
	General Condition Allowance	4.0%			$42,391
	TOTAL COST PER 180 FEET				**$1,155,160**
EL43	**Precast Segmental Box Girder, Long Span (Avg. Pier 30' Ht.)**	**RF**	**Route Linear Foot**		**$6,418**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder, Long Span (Avg. Pier 40' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 180 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	180.0	$75.67	$13,621
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.12	Drilled Shaft, 144" Dia.	vlf	100.0	$4,756.40	$475,640
02630.12	Trackway Drainage, Aerial	lf	180.0	$54.05	$9,729
03210.01	Reinforcing Steel	lb	23,652.0	$1.24	$29,403
03300.14	CIPC, Aerial Pier	cy	48.5	$648.60	$31,434
03300.15	CIPC, Aerial Pier Cap	cy	31.5	$702.65	$22,102
03300.20	CIPC, Plinth	cy	38.3	$972.90	$37,301
03410.25	Precast Segmental Box Girder, Double, Long Span	lf	180.0	$2,162.00	$389,160
05520.01	Metal Pipe and Cable Railing	lf	360.0	$64.86	$23,350
05820.04	Disk Bearing, (400 Kip)	ea	4.0	$5,188.80	$20,755
16060.02	Corrosion Control, Aerial	lf	180.0	$2.70	$486
16130.22	Ductbank, Aerial Guideway	lf	180.0	$102.70	$18,485
	Mobilization Allowance	5.0%			$53,595
	General Condition Allowance	4.0%			$42,876
	TOTAL COST PER 180 FEET				**$1,168,363**
EL44	**Precast Segmental Box Girder, Long Span (Avg. Pier 40' Ht.)**	**RF**	**Route Linear Foot**		**$6,491**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder, Long Span (Avg. Pier 50' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 180 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	180.0	$75.67	$13,621
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.12	Drilled Shaft, 144" Dia.	vlf	100.0	$4,756.40	$475,640
02630.12	Trackway Drainage, Aerial	lf	180.0	$54.05	$9,729
03210.01	Reinforcing Steel	lb	32,292.0	$1.24	$40,144
03300.14	CIPC, Aerial Pier	cy	91.7	$648.60	$59,454
03300.15	CIPC, Aerial Pier Cap	cy	31.5	$702.65	$22,102
03300.20	CIPC, Plinth	cy	38.3	$972.90	$37,301
03410.25	Precast Segmental Box Girder, Double, Long Span	lf	180.0	$2,162.00	$389,160
05520.01	Metal Pipe and Cable Railing	lf	360.0	$64.86	$23,350
05820.04	Disk Bearing, (400 Kip)	ea	4.0	$5,188.80	$20,755
16060.02	Corrosion Control, Aerial	lf	180.0	$2.70	$486
16130.22	Ductbank, Aerial Guideway	lf	180.0	$102.70	$18,485
	Mobilization Allowance	5.0%			$55,533
	General Condition Allowance	4.0%			$44,426
	TOTAL COST PER 180 FEET				**$1,210,611**
EL45	**Precast Segmental Box Girder, Long Span (Avg. Pier 50' Ht.)**	**RF**	**Route Linear Foot**		**$6,726**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder, Long Span (Avg. Pier 60' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 180 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	180.0	$75.67	$13,621
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.12	Drilled Shaft, 144" Dia.	vlf	100.0	$4,756.40	$475,640
02630.12	Trackway Drainage, Aerial	lf	180.0	$54.05	$9,729
03210.01	Reinforcing Steel	lb	39,096.0	$1.24	$48,602
03300.14	CIPC, Aerial Pier	cy	125.7	$648.60	$81,519
03300.15	CIPC, Aerial Pier Cap	cy	31.5	$702.65	$22,102
03300.20	CIPC, Plinth	cy	38.3	$972.90	$37,301
03410.25	Precast Segmental Box Girder, Double, Long Span	lf	180.0	$2,162.00	$389,160
05520.01	Metal Pipe and Cable Railing	lf	360.0	$64.86	$23,350
05820.04	Disk Bearing, (400 Kip)	ea	4.0	$5,188.80	$20,755
16060.02	Corrosion Control, Aerial	lf	180.0	$2.70	$486
16130.22	Ductbank, Aerial Guideway	lf	180.0	$102.70	$18,485
	Mobilization Allowance	5.0%			$57,059
	General Condition Allowance	4.0%			$45,647
	TOTAL COST PER 180 FEET				**$1,243,882**
EL46	**Precast Segmental Box Girder, Long Span (Avg. Pier 60' Ht.)**	**RF**	**Route Linear Foot**		**$6,910**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder, Long Span (Avg. Pier 70' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 180 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	180.0	$75.67	$13,621
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.12	Drilled Shaft, 144" Dia.	vlf	100.0	$4,756.40	$475,640
02630.12	Trackway Drainage, Aerial	lf	180.0	$54.05	$9,729
03210.01	Reinforcing Steel	lb	46,872.0	$1.24	$58,269
03300.14	CIPC, Aerial Pier	cy	164.6	$648.60	$106,737
03300.15	CIPC, Aerial Pier Cap	cy	31.5	$702.65	$22,102
03300.20	CIPC, Plinth	cy	38.3	$972.90	$37,301
03410.25	Precast Segmental Box Girder, Double, Long Span	lf	180.0	$2,162.00	$389,160
05520.01	Metal Pipe and Cable Railing	lf	360.0	$64.86	$23,350
05820.04	Disk Bearing, (400 Kip)	ea	4.0	$5,188.80	$20,755
16060.02	Corrosion Control, Aerial	lf	180.0	$2.70	$486
16130.22	Ductbank, Aerial Guideway	lf	180.0	$102.70	$18,485
	Mobilization Allowance	5.0%			$58,803
	General Condition Allowance	4.0%			$47,042
	TOTAL COST PER 180 FEET				**$1,281,906**
EL47	**Precast Segmental Box Girder, Long Span (Avg. Pier 70' Ht.)**	**RF**	**Route Linear Foot**		**$7,122**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder, Crossover (Avg. Pier 30' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	15,432.0	$1.24	$19,184
03300.14	CIPC, Aerial Pier	cy	28.3	$648.60	$18,355
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.26	Precast Segmental Box Girder, Crossover	lf	120.0	$2,378.20	$285,384
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$37,709
	General Condition Allowance	4.0%			$30,167
	TOTAL COST PER 120 FEET				**$822,058**
EL53	**Precast Segmental Box Girder, Crossover (Avg. Pier 30' Ht.)**	**RF**	**Route Linear Foot**		**$6,850**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder, Crossover (Avg. Pier 40' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	19,092.0	$1.24	$23,734
03300.14	CIPC, Aerial Pier	cy	46.6	$648.60	$30,225
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.26	Precast Segmental Box Girder, Crossover	lf	120.0	$2,378.20	$285,384
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$38,530
	General Condition Allowance	4.0%			$30,824
	TOTAL COST PER 120 FEET				**$839,955**
EL54	**Precast Segmental Box Girder, Crossover (Avg. Pier 40' Ht.)**	**RF**	**Route Linear Foot**		**$7,000**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder, Crossover (Avg. Pier 50' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	23,352.0	$1.24	$29,030
03300.14	CIPC, Aerial Pier	cy	67.9	$648.60	$44,040
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.26	Precast Segmental Box Girder, Crossover	lf	120.0	$2,378.20	$285,384
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$39,486
	General Condition Allowance	4.0%			$31,588
	TOTAL COST PER 120 FEET				**$860,786**
EL55	**Precast Segmental Box Girder, Crossover (Avg. Pier 50' Ht.)**	**RF**	**Route Linear Foot**		**$7,173**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Precast Segmental Box Girder, Crossover (Avg. Pier 70' Ht.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON PIER SPACING OF 120 ft. C-C				
01560.01	Traffic Control Allowance, Level 1	rf	120.0	$75.67	$9,080
02230.02	Clearing & Grubbing Allowance, Level 2	sy	415.0	$1.03	$426
02465.10	Drilled Shaft, 120" Dia.	vlf	100.0	$3,302.46	$330,246
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
03210.01	Reinforcing Steel	lb	34,152.0	$1.24	$42,456
03300.14	CIPC, Aerial Pier	cy	121.9	$648.60	$79,064
03300.15	CIPC, Aerial Pier Cap	cy	23.3	$702.65	$16,372
03300.20	CIPC, Plinth	cy	25.6	$972.90	$24,867
03410.26	Precast Segmental Box Girder, Crossover	lf	120.0	$2,378.20	$285,384
05520.01	Metal Pipe and Cable Railing	lf	240.0	$64.86	$15,566
05820.03	Disk Bearing, (300 Kip)	ea	4.0	$3,891.60	$15,566
16060.02	Corrosion Control, Aerial	lf	120.0	$2.70	$324
16130.22	Ductbank, Aerial Guideway	lf	120.0	$102.70	$12,323
	Mobilization Allowance	5.0%			$41,908
	General Condition Allowance	4.0%			$33,526
	TOTAL COST PER 120 FEET				**$913,597**
EL57	**Precast Segmental Box Girder, Crossover (Avg. Pier 70' Ht.)**	**RF**	**Route Linear Foot**		**$7,613**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Cut & Cover Single Box (Avg. 30' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02230.01	Clearing & Grubbing Allowance, Level 1	sy	2.6	$0.70	$2
02240.01	Dewatering Allowance	rf	1.0	$270.25	$270
02250.05	Soldier Pile & Lagging	sf	60.0	$86.48	$5,189
02310.02	Finish Grading	sf	18.0	$0.86	$16
02315.20	Cut & Cover Excavation	cy	24.8	$32.43	$804
02315.21	Cut & Cover Backfill	cy	12.0	$37.84	$454
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.02	Underdrains	lf	2.0	$8.65	$17
02620.10	Composite Drainage Board	sf	30.0	$2.16	$65
02630.11	Trackway Drainage, Tunnel	lf	0.5	$91.89	$46
02850.10	Service/Safety Walkway	lf	1.0	$97.29	$97
03210.01	Reinforcing Steel	lb	885.0	$1.24	$1,100
03300.08	CIPC, C&C Slab on Grade	cy	2.0	$410.78	$822
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	2.6	$475.64	$1,237
03300.12	CIPC, C&C Roof Slab	cy	1.3	$702.65	$913
03300.20	CIPC, Plinth	cy	0.1	$972.90	$104
07130.21	Sheet Waterproofing	sf	82.0	$6.49	$532
15300.01	Fire Protection Piping, Tunnel	lf	0.5	$237.82	$119
15700.02	Subsurface Ventilation	lf	0.5	$681.03	$341
16130.23	Ductbank, Tunnel Guideway	lf	0.5	$75.67	$38
16500.04	Lighting, Underground Guideway	lf	0.5	$147.02	$74
	Mobilization Allowance	5.0%			$616
	General Condition Allowance	4.0%			$493
CC03	**Cut & Cover Single Box (Avg. 30' Depth)**	**RF**	**Route Foot**		**$13,432**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Cut & Cover Single Box (Avg. 40' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02230.01	Clearing & Grubbing Allowance, Level 1	sy	2.6	$0.70	$2
02240.01	Dewatering Allowance	rf	1.0	$270.25	$270
02250.05	Soldier Pile & Lagging	sf	80.0	$86.48	$6,918
02310.02	Finish Grading	sf	18.0	$0.86	$16
02315.20	Cut & Cover Excavation	cy	33.1	$32.43	$1,073
02315.21	Cut & Cover Backfill	cy	20.3	$37.84	$768
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.02	Underdrains	lf	2.0	$8.65	$17
02620.10	Composite Drainage Board	sf	30.0	$2.16	$65
02630.11	Trackway Drainage, Tunnel	lf	0.5	$91.89	$46
02850.10	Service/Safety Walkway	lf	1.0	$97.29	$97
03210.01	Reinforcing Steel	lb	885.0	$1.24	$1,100
03300.08	CIPC, C&C Slab on Grade	cy	2.0	$410.78	$822
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	2.6	$475.64	$1,237
03300.12	CIPC, C&C Roof Slab	cy	1.3	$702.65	$913
03300.20	CIPC, Plinth	cy	0.1	$972.90	$104
07130.21	Sheet Waterproofing	sf	82.0	$6.49	$532
15300.01	Fire Protection Piping, Tunnel	lf	0.5	$237.82	$119
15700.02	Subsurface Ventilation	lf	0.5	$681.03	$341
16130.23	Ductbank, Tunnel Guideway	lf	0.5	$75.67	$38
16500.04	Lighting, Underground Guideway	lf	0.5	$147.02	$74
	Mobilization Allowance	5.0%			$732
	General Condition Allowance	4.0%			$585
CC04	**Cut & Cover Single Box (Avg. 40' Depth)**	**RF**	**Route Foot**		**$15,952**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Cut & Cover Single Box (Avg. 50' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02230.01	Clearing & Grubbing Allowance, Level 1	sy	2.6	$0.70	$2
02240.01	Dewatering Allowance	rf	1.0	$270.25	$270
02250.05	Soldier Pile & Lagging	sf	100.0	$86.48	$8,648
02310.02	Finish Grading	sf	18.0	$0.86	$16
02315.20	Cut & Cover Excavation	cy	41.4	$32.43	$1,343
02315.21	Cut & Cover Backfill	cy	28.6	$37.84	$1,082
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.02	Underdrains	lf	2.0	$8.65	$17
02620.10	Composite Drainage Board	sf	30.0	$2.16	$65
02630.11	Trackway Drainage, Tunnel	lf	0.5	$91.89	$46
02850.10	Service/Safety Walkway	lf	1.0	$97.29	$97
03210.01	Reinforcing Steel	lb	885.0	$1.24	$1,100
03300.08	CIPC, C&C Slab on Grade	cy	2.0	$410.78	$822
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	2.6	$475.64	$1,237
03300.12	CIPC, C&C Roof Slab	cy	1.3	$702.65	$913
03300.20	CIPC, Plinth	cy	0.1	$972.90	$104
07130.21	Sheet Waterproofing	sf	82.0	$6.49	$532
15300.01	Fire Protection Piping, Tunnel	lf	0.5	$237.82	$119
15700.02	Subsurface Ventilation	lf	0.5	$681.03	$341
16130.23	Ductbank, Tunnel Guideway	lf	0.5	$75.67	$38
16500.04	Lighting, Underground Guideway	lf	0.5	$147.02	$74
	Mobilization Allowance	5.0%			$847
	General Condition Allowance	4.0%			$678
CC05	**Cut & Cover Single Box (Avg. 50' Depth)**	**RF**	**Route Foot**		**$18,473**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Cut & Cover Double Box (Avg. 30' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02230.01	Clearing & Grubbing Allowance, Level 1	sy	4.4	$0.70	$3
02240.01	Dewatering Allowance	rf	1.0	$270.25	$270
02250.05	Soldier Pile & Lagging	sf	60.0	$86.48	$5,189
02310.02	Finish Grading	sf	35.0	$0.86	$30
02315.20	Cut & Cover Excavation	cy	43.9	$32.43	$1,424
02315.21	Cut & Cover Backfill	cy	20.3	$37.84	$768
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.02	Underdrains	lf	2.0	$8.65	$17
02620.10	Composite Drainage Board	sf	30.0	$2.16	$65
02630.11	Trackway Drainage, Tunnel	lf	1.0	$91.89	$92
02850.10	Service/Safety Walkway	lf	1.0	$97.29	$97
03210.01	Reinforcing Steel	lb	1,470.0	$1.24	$1,827
03300.08	CIPC, C&C Slab on Grade	cy	3.9	$410.78	$1,602
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	2.6	$475.64	$1,237
03300.11	CIPC, C&C Interior Walls	cy	0.7	$572.93	$401
03300.12	CIPC, C&C Roof Slab	cy	2.6	$702.65	$1,827
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
07130.21	Sheet Waterproofing	sf	116.0	$6.49	$752
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
15700.02	Subsurface Ventilation	lf	1.0	$681.03	$681
16130.23	Ductbank, Tunnel Guideway	lf	1.0	$75.67	$76
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$852
	General Condition Allowance	4.0%			$681
CC23	**Cut & Cover Double Box (Avg. 30' Depth)**	**RF**	**Route Foot**		**$18,568**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Cut & Cover Double Box (Avg. 40' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02230.01	Clearing & Grubbing Allowance, Level 1	sy	4.4	$0.70	$3
02240.01	Dewatering Allowance	rf	1.0	$270.25	$270
02250.05	Soldier Pile & Lagging	sf	80.0	$86.48	$6,918
02310.02	Finish Grading	sf	35.0	$0.86	$30
02315.20	Cut & Cover Excavation	cy	58.5	$32.43	$1,897
02315.21	Cut & Cover Backfill	cy	34.9	$37.84	$1,320
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.02	Underdrains	lf	2.0	$8.65	$17
02620.10	Composite Drainage Board	sf	30.0	$2.16	$65
02630.11	Trackway Drainage, Tunnel	lf	1.0	$91.89	$92
02850.10	Service/Safety Walkway	lf	1.0	$97.29	$97
03210.01	Reinforcing Steel	lb	1,470.0	$1.24	$1,827
03300.08	CIPC, C&C Slab on Grade	cy	3.9	$410.78	$1,602
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	2.6	$475.64	$1,237
03300.11	CIPC, C&C Interior Walls	cy	0.7	$572.93	$401
03300.12	CIPC, C&C Roof Slab	cy	2.6	$702.65	$1,827
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
07130.21	Sheet Waterproofing	sf	116.0	$6.49	$752
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
15700.02	Subsurface Ventilation	lf	1.0	$681.03	$681
16130.23	Ductbank, Tunnel Guideway	lf	1.0	$75.67	$76
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$990
	General Condition Allowance	4.0%			$792
CC24	**Cut & Cover Double Box (Avg. 40' Depth)**	**RF**	**Route Foot**		**$21,572**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Cut & Cover Double Box (Avg. 50' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02230.01	Clearing & Grubbing Allowance, Level 1	sy	4.4	$0.70	$3
02240.01	Dewatering Allowance	rf	1.0	$270.25	$270
02250.05	Soldier Pile & Lagging	sf	100.0	$86.48	$8,648
02310.02	Finish Grading	sf	35.0	$0.86	$30
02315.20	Cut & Cover Excavation	cy	73.1	$32.43	$2,371
02315.21	Cut & Cover Backfill	cy	49.5	$37.84	$1,873
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.02	Underdrains	lf	2.0	$8.65	$17
02620.10	Composite Drainage Board	sf	30.0	$2.16	$65
02630.11	Trackway Drainage, Tunnel	lf	1.0	$91.89	$92
02850.10	Service/Safety Walkway	lf	1.0	$97.29	$97
03210.01	Reinforcing Steel	lb	1,470.0	$1.24	$1,827
03300.08	CIPC, C&C Slab on Grade	cy	3.9	$410.78	$1,602
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	2.6	$475.64	$1,237
03300.11	CIPC, C&C Interior Walls	cy	0.7	$572.93	$401
03300.12	CIPC, C&C Roof Slab	cy	2.6	$702.65	$1,827
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
07130.21	Sheet Waterproofing	sf	116.0	$6.49	$752
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
15700.02	Subsurface Ventilation	lf	1.0	$681.03	$681
16130.23	Ductbank, Tunnel Guideway	lf	1.0	$75.67	$76
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$1,127
	General Condition Allowance	4.0%			$902
CC25	**Cut & Cover Double Box (Avg. 50' Depth)**	**RF**	**Route Foot**		**$24,575**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Cut & Cover Double Box (Avg. 60' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02230.01	Clearing & Grubbing Allowance, Level 1	sy	4.4	$0.70	$3
02240.01	Dewatering Allowance	rf	1.0	$270.25	$270
02250.05	Soldier Pile & Lagging	sf	120.0	$86.48	$10,378
02310.02	Finish Grading	sf	35.0	$0.86	$30
02315.20	Cut & Cover Excavation	cy	87.8	$32.43	$2,847
02315.21	Cut & Cover Backfill	cy	64.2	$37.84	$2,429
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.02	Underdrains	lf	2.0	$8.65	$17
02620.10	Composite Drainage Board	sf	30.0	$2.16	$65
02630.11	Trackway Drainage, Tunnel	lf	1.0	$91.89	$92
02850.10	Service/Safety Walkway	lf	1.0	$97.29	$97
03210.01	Reinforcing Steel	lb	1,470.0	$1.24	$1,827
03300.08	CIPC, C&C Slab on Grade	cy	3.9	$410.78	$1,602
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	2.6	$475.64	$1,237
03300.11	CIPC, C&C Interior Walls	cy	0.7	$572.93	$401
03300.12	CIPC, C&C Roof Slab	cy	2.6	$702.65	$1,827
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
07130.21	Sheet Waterproofing	sf	116.0	$6.49	$752
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
15700.02	Subsurface Ventilation	lf	1.0	$681.03	$681
16130.23	Ductbank, Tunnel Guideway	lf	1.0	$75.67	$76
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$1,265
	General Condition Allowance	4.0%			$1,012
CC26	**Cut & Cover Double Box (Avg. 60' Depth)**	**RF**	**Route Foot**		**$27,586**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Cut & Cover Double Crossover Box (Avg. 30' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02230.01	Clearing & Grubbing Allowance, Level 1	sy	9.1	$0.70	$6
02240.01	Dewatering Allowance	rf	1.0	$270.25	$270
02250.05	Soldier Pile & Lagging	sf	60.0	$86.48	$5,189
02310.02	Finish Grading	sf	82.0	$0.86	$71
02315.20	Cut & Cover Excavation	cy	84.5	$32.43	$2,740
02315.21	Cut & Cover Backfill	cy	26.2	$37.84	$991
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.02	Underdrains	lf	2.0	$8.65	$17
02620.10	Composite Drainage Board	sf	30.0	$2.16	$65
02630.11	Trackway Drainage, Tunnel	lf	1.0	$91.89	$92
02850.10	Service/Safety Walkway	lf	1.0	$97.29	$97
03210.01	Reinforcing Steel	lb	5,745.0	$1.24	$7,142
03300.08	CIPC, C&C Slab on Grade	cy	12.1	$410.78	$4,970
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	8.0	$475.64	$3,805
03300.12	CIPC, C&C Roof Slab	cy	18.2	$702.65	$12,788
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
07130.21	Sheet Waterproofing	sf	116.0	$6.49	$752
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
15700.02	Subsurface Ventilation	lf	1.0	$681.03	$681
16130.23	Ductbank, Tunnel Guideway	lf	1.0	$75.67	$76
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$2,022
	General Condition Allowance	4.0%			$1,617
CC83	**Cut & Cover Double Crossover Box (Avg. 30' Depth)**	**RF**	**Route Foot**		**$44,069**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Cut & Cover Double Crossover Box (Avg. 40' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02230.01	Clearing & Grubbing Allowance, Level 1	sy	9.1	$0.70	$6
02240.01	Dewatering Allowance	rf	1.0	$270.25	$270
02250.05	Soldier Pile & Lagging	sf	80.0	$86.48	$6,918
02310.02	Finish Grading	sf	82.0	$0.86	$71
02315.20	Cut & Cover Excavation	cy	112.6	$32.43	$3,652
02315.21	Cut & Cover Backfill	cy	54.3	$37.84	$2,054
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.02	Underdrains	lf	2.0	$8.65	$17
02620.10	Composite Drainage Board	sf	30.0	$2.16	$65
02630.11	Trackway Drainage, Tunnel	lf	1.0	$91.89	$92
02850.10	Service/Safety Walkway	lf	1.0	$97.29	$97
03210.01	Reinforcing Steel	lb	5,745.0	$1.24	$7,142
03300.08	CIPC, C&C Slab on Grade	cy	12.1	$410.78	$4,970
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	8.0	$475.64	$3,805
03300.12	CIPC, C&C Roof Slab	cy	18.2	$702.65	$12,788
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
07130.21	Sheet Waterproofing	sf	116.0	$6.49	$752
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
15700.02	Subsurface Ventilation	lf	1.0	$681.03	$681
16130.23	Ductbank, Tunnel Guideway	lf	1.0	$75.67	$76
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$2,207
	General Condition Allowance	4.0%			$1,765
CC84	**Cut & Cover Double Crossover Box (Avg. 40' Depth)**	**RF**	**Route Foot**		**$48,107**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Cut & Cover Double Crossover Box (Avg. 50' Depth)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02230.01	Clearing & Grubbing Allowance, Level 1	sy	9.1	$0.70	$6
02240.01	Dewatering Allowance	rf	1.0	$270.25	$270
02250.05	Soldier Pile & Lagging	sf	100.0	$86.48	$8,648
02310.02	Finish Grading	sf	82.0	$0.86	$71
02315.20	Cut & Cover Excavation	cy	140.8	$32.43	$4,566
02315.21	Cut & Cover Backfill	cy	82.5	$37.84	$3,121
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02620.02	Underdrains	lf	2.0	$8.65	$17
02620.10	Composite Drainage Board	sf	30.0	$2.16	$65
02630.11	Trackway Drainage, Tunnel	lf	1.0	$91.89	$92
02850.10	Service/Safety Walkway	lf	1.0	$97.29	$97
03210.01	Reinforcing Steel	lb	5,745.0	$1.24	$7,142
03300.08	CIPC, C&C Slab on Grade	cy	12.1	$410.78	$4,970
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	8.0	$475.64	$3,805
03300.12	CIPC, C&C Roof Slab	cy	18.2	$702.65	$12,788
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
07130.21	Sheet Waterproofing	sf	116.0	$6.49	$752
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
15700.02	Subsurface Ventilation	lf	1.0	$681.03	$681
16130.23	Ductbank, Tunnel Guideway	lf	1.0	$75.67	$76
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$2,392
	General Condition Allowance	4.0%			$1,914
CC85	**Cut & Cover Double Crossover Box (Avg. 50' Depth)**	**RF**	**Route Foot**		**$52,152**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
TBM Tunnel - Single Bore (18'-10" I.D.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE FOOT				
02410.02	Tunnel Excavation & Support, TBM	cy	12.8	$286.47	$3,675
02410.10	Contact Grouting	cf	5.0	$12.97	$64
02410.20	CIPC, Tunnel	cy	0.4	$1,081.00	$378
02410.22	Precast Tunnel Lining Segments	sf	59.7	$32.43	$1,936
02410.45	Tunnel Construction Instrumentation	lf	1.0	$70.27	$70
02410.50	Temporary Air, Water, Ventilation	lf	1.0	$27.03	$27
02630.11	Trackway Drainage, Tunnel	lf	1.0	$91.89	$92
03210.01	Reinforcing Steel	lb	21.3	$1.24	$26
03300.20	CIPC, Plinth	cy	0.1	$972.90	$104
05520.05	Safety Railing	lf	1.0	$27.03	$27
10100.03	Signage, Guideway Allowance	lf	1.0	$12.97	$13
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
15700.02	Subsurface Ventilation	lf	1.0	$681.03	$681
16130.23	Ductbank, Tunnel Guideway	lf	1.0	$75.67	$76
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$378
	General Condition Allowance	4.0%			$302
TL01	**TBM Tunnel - Single Bore (18'-10" I.D.)**	**RF**	**Route Foot**		**$8,235**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
TBM Tunnel - Twin Bore (18'-10" I.D.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE FOOT				
02410.02	Tunnel Excavation & Support, TBM	cy	25.7	$286.47	$7,351
02410.10	Contact Grouting	cf	9.9	$12.97	$129
02410.20	CIPC, Tunnel	cy	0.7	$1,081.00	$757
02410.22	Precast Tunnel Lining Segments	sf	119.4	$32.43	$3,872
02410.30	Crosspassage	ea	0.001	$540,500.00	$676
02410.45	Tunnel Construction Instrumentation	lf	2.0	$70.27	$141
02410.50	Temporary Air, Water, Ventilation	lf	2.0	$27.03	$54
02630.11	Trackway Drainage, Tunnel	lf	2.0	$91.89	$184
03210.01	Reinforcing Steel	lb	42.6	$1.24	$53
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05520.05	Safety Railing	lf	2.0	$27.03	$54
10100.03	Signage, Guideway Allowance	lf	2.0	$12.97	$26
15300.01	Fire Protection Piping, Tunnel	lf	2.0	$237.82	$476
15700.02	Subsurface Ventilation	lf	2.0	$681.03	$1,362
16130.23	Ductbank, Tunnel Guideway	lf	2.0	$75.67	$151
16500.04	Lighting, Underground Guideway	lf	2.0	$147.02	$294
	Mobilization Allowance	5.0%			$789
	General Condition Allowance	4.0%			$631
TL05	**TBM Tunnel - Twin Bore (18'-10" I.D.)**	**RF**	**Route Foot**		**$17,206**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
TBM Tunnel thru C&C Station - Twin Bore (18'-10" I.D.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE FOOT				
02410.02	Tunnel Excavation & Support, TBM	cy	25.7	$286.47	$7,351
02410.10	Contact Grouting	cf	9.9	$12.97	$129
02410.20	CIPC, Tunnel	cy	0.0	$1,081.00	$0
02410.23	Tunnel Lining -Temporary	sf	119.4	$19.46	$2,323
02410.30	Crosspassage	ea	0.000	$540,500.00	$0
02410.45	Tunnel Construction Instrumentation	lf	2.0	$70.27	$141
02410.50	Temporary Air, Water, Ventilation	lf	2.0	$27.03	$54
02630.11	Trackway Drainage, Tunnel	lf	2.0	$91.89	$184
03210.01	Reinforcing Steel	lb	0.0	$1.24	$0
03300.20	CIPC, Plinth	cy	0.0	$972.90	$0
05520.05	Safety Railing	lf	0.0	$27.03	$0
10100.03	Signage, Guideway Allowance	lf	0.0	$12.97	$0
15300.01	Fire Protection Piping, Tunnel	lf	0.0	$237.82	$0
15700.02	Subsurface Ventilation	lf	0.0	$681.03	$0
16130.23	Ductbank, Tunnel Guideway	lf	0.0	$75.67	$0
16500.04	Lighting, Underground Guideway	lf	0.0	$147.02	$0
	Mobilization Allowance	5.0%			$509
	General Condition Allowance	4.0%			$407
TL08	**TBM Tunnel thru C&C Station - Twin Bore (18'-10" I.D.)**	**RF**	**Route Foot**		**$11,098**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Dbl Track in Exist. Tunnel - Direct Fixation

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
02220.99	Site Demolition Allowance	sf	16.0	$4.32	$69
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
02630.10	Trackway Drainage, Paved Area	lf	1.0	$37.84	$38
03210.01	Reinforcing Steel	lb	162.6	$1.24	$202
03300.11	CIPC, C&C Interior Walls	cy	0.6	$572.93	$344
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05520.05	Safety Railing	lf	2.0	$27.03	$54
10100.03	Signage, Guideway Allowance	lf	2.0	$12.97	$26
15300.01	Fire Protection Piping, Tunnel	lf	2.0	$237.82	$476
15700.02	Subsurface Ventilation	lf	2.0	$681.03	$1,362
16130.23	Ductbank, Tunnel Guideway	lf	2.0	$75.67	$151
16500.04	Lighting, Underground Guideway	lf	2.0	$147.02	$294
	Mobilization Allowance	5.0%			$172
	General Condition Allowance	4.0%			$137
TL20	**Dbl Track in Exist. Tunnel - Direct Fixation**	**RF**	**Route Foot**		**$3,740**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Fan / Vent Shaft Equipment

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
15700.10	Ventilation Equipment (Allowance)	ea	1.0	$864,800.00	$864,800
	Mobilization Allowance	5.0%			$43,240
	General Condition Allowance	4.0%			$34,592
VS01	**Fan / Vent Shaft Equipment**	**EA**	**Each**		**$942,632**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Fan / Vent Shaft (18' O.D.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE FOOT				
02410.03	Shaft Excavation & Support, Rock	cy	9.4	$189.18	$1,778
02410.10	Contact Grouting	cf	9.6	$12.97	$125
02410.21	CIPC, Shaft	cy	2.0	$918.85	$1,810
02410.50	Temporary Air, Water, Ventilation	lf	1.0	$27.03	$27
03210.01	Reinforcing Steel	lb	140.0	$1.24	$174
03300.99	CIPC, Miscellaneous Structures	cy	0.7	$940.47	$658
05120.05	Structural Steel, Misc.	lb	150.0	$4.32	$649
07130.21	Sheet Waterproofing	sf	56.5	$6.49	$366
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$299
	General Condition Allowance	4.0%			$239
VS05	**Fan / Vent Shaft (18' O.D.)**	**VF**	**Vertical Foot**		**$6,510**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Emergency Access Shaft (24' O.D.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE FOOT				
02410.03	Shaft Excavation & Support, Rock	cy	16.8	$189.18	$3,178
02410.10	Contact Grouting	cf	18.8	$12.97	$244
02410.21	CIPC, Shaft	cy	2.7	$918.85	$2,481
02410.50	Temporary Air, Water, Ventilation	lf	1.0	$27.03	$27
03210.01	Reinforcing Steel	lb	360.0	$1.24	$448
03300.99	CIPC, Miscellaneous Structures	cy	1.8	$940.47	$1,693
05120.05	Structural Steel, Misc.	lb	150.0	$4.32	$649
05520.01	Metal Pipe and Cable Railing	lf	1.0	$64.86	$65
07130.21	Sheet Waterproofing	sf	75.4	$6.49	$489
15300.01	Fire Protection Piping, Tunnel	lf	1.0	$237.82	$238
16500.04	Lighting, Underground Guideway	lf	1.0	$147.02	$147
	Mobilization Allowance	5.0%			$483
	General Condition Allowance	4.0%			$386
ES05	**Emergency Access Shaft (24' O.D.)**	**VF**	**Vertical Foot**		**$10,527**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Guideway:
Pumping Station

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
15400.01	Pumping Station (Tunnel / Cut & Cover)	ea	1.0	$216,200.00	$216,200
	Mobilization Allowance	5.0%			$10,810
	General Condition Allowance	4.0%			$8,648
PS01	**Pumping Station**	**EA**	**Each**		**$235,658**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Trackwork:
Ballasted - Single Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
05650.02	Ballast	cy	1.0	$49.73	$50
05650.05	Ballasted Trackwork, incl/ Ties, Fasteners & Rail	tf	1.0	$232.42	$232
	Mobilization Allowance	5.0%			$14
	General Condition Allowance	4.0%			$11
TK01	**Ballasted - Single Track**	**RF**	**Route Foot**		**$308**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Trackwork:
Ballasted - Double Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
05650.02	Ballast	cy	1.6	$49.73	$80
05650.05	Ballasted Trackwork, incl/ Ties, Fasteners & Rail	tf	2.0	$232.42	$465
	Mobilization Allowance	5.0%			$27
	General Condition Allowance	4.0%			$22
TK02	**Ballasted - Double Track**	**RF**	**Route Foot**		**$593**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Trackwork:
Embedded - Streetcar Single Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
05650.14	Embedded Trackwork, Streetcar incl/ Fasteners & Rail	tf	1.0	$421.59	$422
	Mobilization Allowance	5.0%			$21
	General Condition Allowance	4.0%			$17
TK08	**Embedded - Streetcar Single Track**	**RF**	**Route Foot**		**$460**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Trackwork:
Embedded - Streetcar Double Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
05650.14	Embedded Trackwork, Streetcar incl/ Fasteners & Rail	tf	2.0	$421.59	$843
	Mobilization Allowance	5.0%			$42
	General Condition Allowance	4.0%			$34
TK09	**Embedded - Streetcar Double Track**	**RF**	**Route Foot**		**$919**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Trackwork:
Embedded - Single Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
05650.15	Embedded Trackwork, incl/ Fasteners & Rail	tf	1.0	$524.29	$524
	Mobilization Allowance	5.0%			$26
	General Condition Allowance	4.0%			$21
TK10	**Embedded - Single Track**	**RF**	**Route Foot**		**$571**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Trackwork:
Embedded - Double Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
05650.15	Embedded Trackwork, incl/ Fasteners & Rail	tf	2.0	$524.29	$1,049
	Mobilization Allowance	5.0%			$52
	General Condition Allowance	4.0%			$42
TK11	**Embedded - Double Track**	**RF**	**Route Foot**		**$1,143**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Trackwork:
Embedded - Single Track at Intersection

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
05650.16	Embedded Trackwork, at roadway crossing	tf	1.0	$621.58	$622
	Mobilization Allowance	5.0%			$31
	General Condition Allowance	4.0%			$25
TK14	**Embedded - Single Track at Intersection**	**RF**	**Route Foot**		**$678**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Embedded - Double Track at Intersection

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
05650.16	Embedded Trackwork, at roadway crossing	tf	2.0	$621.58	$1,243
	Mobilization Allowance	5.0%			$62
	General Condition Allowance	4.0%			$50
TK15	**Embedded - Double Track at Intersection**	**RF**	**Route Foot**		**$1,355**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Direct Fixation - Single Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
05650.06	Direct Fixation Trackwork, incl/ Fasteners & Rail	tf	1.0	$432.40	$432
	Mobilization Allowance	5.0%			$22
	General Condition Allowance	4.0%			$17
TK20	**Direct Fixation - Single Track**	**RF**	**Route Foot**		**$471**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Direct Fixation - Double Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
05650.06	Direct Fixation Trackwork, incl/ Fasteners & Rail	tf	2.0	$432.40	$865
	Mobilization Allowance	5.0%			$43
	General Condition Allowance	4.0%			$35
TK21	**Direct Fixation - Double Track**	**RF**	**Route Foot**		**$943**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Direct Fixation - Single Track Conversion

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
03300.20	CIPC, Plinth	cy	0.1	$972.90	$104
05650.06	Direct Fixation Trackwork, incl/ Fasteners & Rail	tf	1.0	$432.40	$432
	Mobilization Allowance	5.0%			$34
	General Condition Allowance	4.0%			$27
TK24	**Direct Fixation - Single Track Conversion**	**RF**	**Route Foot**		**$749**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Direct Fixation - Double Track Conversion

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	1.0	$151.34	$151
03300.20	CIPC, Plinth	cy	0.2	$972.90	$207
05650.06	Direct Fixation Trackwork, incl/ Fasteners & Rail	tf	2.0	$432.40	$865
	Mobilization Allowance	5.0%			$61
	General Condition Allowance	4.0%			$49
TK25	**Direct Fixation - Double Track Conversion**	**RF**	**Route Foot**		**$1,333**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Crossing Panels - Single Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
05650.22	Precast Concrete Road Crossing Panels	tf	1.0	$621.58	$622
	Mobilization Allowance	5.0%			$31
	General Condition Allowance	4.0%			$25
SP01	**Crossing Panels - Single Track**	**TF**	**Track Foot**		**$678**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Crossing Panels - Double Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
05650.22	Precast Concrete Road Crossing Panels	tf	2.0	$621.58	$1,243
	Mobilization Allowance	5.0%			$62
	General Condition Allowance	4.0%			$50
SP02	**Crossing Panels - Double Track**	**TF**	**Track Foot**		**$1,355**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Ballasted - Single Cross-over

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
05650.37	Special Trackwork, No. 8 Sgl Crossover, Ballasted	ea	1.0	$220,524.00	$220,524
	Mobilization Allowance	5.0%			$11,026
	General Condition Allowance	4.0%			$8,821
SP07	**Ballasted - Single Cross-over**	**EA**	**Each**		**$240,371**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Ballasted - Double Cross-over (Std.)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
05650.33	Special Trackwork, No. 8 Dbl Crossover, Ballasted	ea	1.0	$441,048.00	$441,048
	Mobilization Allowance	5.0%			$22,052
	General Condition Allowance	4.0%			$17,642
SP08	**Ballasted - Double Cross-over (Std.)**	**EA**	**Each**		**$480,742**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Ballasted - Double Cross-over (Wide)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
05650.33	Special Trackwork, No. 8 Dbl Crossover, Ballasted	ea	1.0	$441,048.00	$441,048
	Allowance for wider track centers		10%		$44,105
	Mobilization Allowance	5.0%			$24,258
	General Condition Allowance	4.0%			$19,406
SP12	**Ballasted - Double Cross-over (Wide)**	**EA**	**Each**		**$528,817**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Ballasted - Pocket Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON 1,200 ROUTE FOOT				
05650.05	Ballasted Trackwork, incl/ Ties, Fasteners & Rail	tf	3,600.0	$232.42	$836,694
05650.42	Special Trackwork, No. 8 Turnout,Ballasted	ea	4.0	$106,370.40	$425,482
05650.43	Special Trackwork, No. 6 Turnout,Ballasted	ea	4.0	$88,209.60	$352,838
	Mobilization Allowance	5.0%			$80,751
	General Condition Allowance	4.0%			$64,601
	TOTAL COST PER 1,200 FEET				**$1,760,365**
SP14	**Ballasted - Pocket Track**	**RF**	**Route Linear Foot**		**$1,467**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Ballasted - Turnout

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
05650.42	Special Trackwork, No. 8 Turnout,Ballasted	ea	1.0	$106,370.40	$106,370
	Mobilization Allowance	5.0%			$5,319
	General Condition Allowance	4.0%			$4,255
SP15	**Ballasted - Turnout**	**EA**	**Each**		**$115,944**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Embedded - Turnout

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
05650.53	Special Trackwork, 50 M Turnout, Embedded	ea	1.0	$194,580.00	$194,580
	Mobilization Allowance	5.0%			$9,729
	General Condition Allowance	4.0%			$7,783
SP16	**Embedded - Turnout**	**EA**	**Each**		**$212,092**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Embedded - Single Cross-over

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
05650.55	Special Trackwork, Sgl Crossover, Embedded	ea	1.0	$505,908.00	$505,908
	Mobilization Allowance	5.0%			$25,295
	General Condition Allowance	4.0%			$20,236
SP17	**Embedded - Single Cross-over**	**EA**	**Each**		**$551,440**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Embedded - Double Cross-over

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
05650.56	Special Trackwork, Dbl Crossover, Embedded	ea	1.0	$1,026,950.00	$1,026,950
	Mobilization Allowance	5.0%			$51,348
	General Condition Allowance	4.0%			$41,078
SP18	**Embedded - Double Cross-over**	**EA**	**Each**		**$1,119,376**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Direct Fixation - Double Cross-over

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
05650.34	Special Trackwork, No. 8 Dbl Crossover,DF	ea	1.0	$531,852.00	$531,852
	Mobilization Allowance	5.0%			$26,593
	General Condition Allowance	4.0%			$21,274
SP20	**Direct Fixation - Double Cross-over**	**EA**	**Each**		**$579,719**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Direct Fixation - Pocket Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON 1,200 ROUTE FOOT				
05650.06	Direct Fixation Trackwork, incl/ Fasteners & Rail	tf	3,600.0	$432.40	$1,556,640
05650.49	Special Trackwork, No. 8 Turnout,DF	ea	4.0	$142,692.00	$570,768
05650.50	Special Trackwork, No. 5 Turnout,DF	ea	4.0	$90,804.00	$363,216
	Mobilization Allowance	5.0%			$124,531
	General Condition Allowance	4.0%			$99,625
	TOTAL COST PER 1,200 FEET				**$2,714,780**
SP21	**Direct Fixation - Pocket Track**	**RF**	**Route Linear Foot**		**$2,262**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Direct Fixation - Turnout

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
05650.49	Special Trackwork, No. 8 Turnout,DF	ea	1.0	$142,692.00	$142,692
	Mobilization Allowance	5.0%			$7,135
	General Condition Allowance	4.0%			$5,708
SP22	**Direct Fixation - Turnout**	**EA**	**Each**		**$155,534**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Streetcar - Turnout

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
05650.52	Special Trackwork, 25 M Turnout, Embedded	ea	1.0	$135,125.00	$135,125
	Mobilization Allowance	5.0%			$6,756
	General Condition Allowance	4.0%			$5,405
SP30	**Streetcar - Turnout**	**EA**	**Each**		**$147,286**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Streetcar - Double Cross-over

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
05650.56	Special Trackwork, Dbl Crossover, Embedded	ea	0.7	$1,026,950.00	$718,865
	Mobilization Allowance	5.0%			$35,943
	General Condition Allowance	4.0%			$28,755
SP32	**Streetcar - Double Cross-over**	**EA**	**Each**		**$783,563**

Trackwork

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Noise & Vibration Dampening - Single Track Allowance

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
	(Assume ballast mat on approximately 25% of guideway)				
05650.04	Ballast Mat	sf	1.5	$10.81	$16
	Mobilization Allowance	5.0%			$1
	General Condition Allowance	4.0%			$1
NV01	**Noise & Vibration Dampening - Single Track Allowance**	**RF**	**Route Foot**		**$18**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Trackwork:
Noise & Vibration Dampening - Double Track Allowance

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
	(Assume ballast mat on approximately 25% of guideway)				
05650.04	Ballast Mat	sf	3.0	$10.81	$32
	Mobilization Allowance	5.0%			$2
	General Condition Allowance	4.0%			$1
NV02	**Noise & Vibration Dampening - Double Track Allowance**	**RF**	**Route Foot**		**$35**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
At-Grade - 18 ft. Center Platform - 1 Platform (180')
(18' x 180' Platform)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	4,000.0	$4.32	$17,296
02225.01	Pedestrian Access for Stations	sf	2,000.0	$32.43	$64,860
02310.02	Finish Grading	sf	4,000.0	$0.86	$3,459
02315.01	Excavation w/haul	cy	296.3	$14.05	$4,164
02315.10	Structural Excavation	cy	60.0	$16.22	$973
02315.11	Structural Backfill	cy	330.0	$27.03	$8,918
02370.01	Erosion Control Allowance	rf	200.0	$8.65	$1,730
02470.01	OCS Pole Foundations	ea	2.0	$4,324.00	$8,648
03210.01	Reinforcing Steel	lb	22,666.7	$1.24	$28,178
03300.02	CIPC, Slab on Grade	cy	60.0	$389.16	$23,350
03300.03	CIPC, Walls	cy	53.3	$702.65	$37,475
09000.01	Architectural Finish, Station	sf	2,880.0	$43.24	$124,531
09000.02	Platform Edge	sf	360.0	$45.40	$16,345
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
10500.01	Station Canopy	sf	900.0	$151.34	$136,206
12000.01	Station Furnishings, Center Platform (Allowance)	sta	1.0	$75,670.00	$75,670
15800.01	Station Mechanical (Allowance)	sf	3,240.0	$11.89	$38,527
16000.01	Station Electrical (Allowance)	sf	3,240.0	$27.03	$87,561
16060.01	Corrosion Control, At-Grade	lf	180.0	$2.16	$389
16130.21	Ductbank, At Grade Guideway	lf	180.0	$48.65	$8,756
16500.05	Lighting, Stations (Allowance)	sf	3,240.0	$6.49	$21,015
	Mobilization Allowance	5.0%			$38,727
	General Condition Allowance	4.0%			$30,981
ST02	**At-Grade - 18 ft. Center Platform - 1 Platform (180')**	**LS**	**Lump Sum**		**$844,239**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
At-Grade - 18 ft. Center Platform - 1 Platform (225')
(18' x 225' Platform)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	4,900.0	$4.32	$21,188
02225.01	Pedestrian Access for Stations	sf	2,000.0	$32.43	$64,860
02310.02	Finish Grading	sf	4,900.0	$0.86	$4,238
02315.01	Excavation w/haul	cy	363.0	$14.05	$5,101
02315.10	Structural Excavation	cy	75.0	$16.22	$1,216
02315.11	Structural Backfill	cy	412.5	$27.03	$11,148
02370.01	Erosion Control Allowance	rf	245.0	$8.65	$2,119
02470.01	OCS Pole Foundations	ea	3.0	$4,324.00	$12,972
03210.01	Reinforcing Steel	lb	28,333.3	$1.24	$35,223
03300.02	CIPC, Slab on Grade	cy	75.0	$389.16	$29,187
03300.03	CIPC, Walls	cy	66.7	$702.65	$46,843
09000.01	Architectural Finish, Station	sf	3,600.0	$43.24	$155,664
09000.02	Platform Edge	sf	450.0	$45.40	$20,431
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
10500.01	Station Canopy	sf	1,125.0	$151.34	$170,258
12000.01	Station Furnishings, Center Platform (Allowance)	sta	1.0	$75,670.00	$75,670
15800.01	Station Mechanical (Allowance)	sf	4,050.0	$11.89	$48,159
16000.01	Station Electrical (Allowance)	sf	4,050.0	$27.03	$109,451
16060.01	Corrosion Control, At-Grade	lf	225.0	$2.16	$486
16130.21	Ductbank, At Grade Guideway	lf	225.0	$48.65	$10,945
16500.05	Lighting, Stations (Allowance)	sf	4,050.0	$6.49	$26,268
	Mobilization Allowance	5.0%			$45,895
	General Condition Allowance	4.0%			$36,716
ST05	**At-Grade - 18 ft. Center Platform - 1 Platform (225')**	**LS**	**Lump Sum**		**$1,000,519**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Stations:
At-Grade - 18 ft. Center Platform - 1 Platform (120')
(18' x 120' Platform)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	2,800.0	$4.32	$12,107
02225.01	Pedestrian Access for Stations	sf	2,000.0	$32.43	$64,860
02310.02	Finish Grading	sf	2,800.0	$0.86	$2,421
02315.01	Excavation w/haul	cy	207.4	$14.05	$2,915
02315.10	Structural Excavation	cy	40.0	$16.22	$649
02315.11	Structural Backfill	cy	220.0	$27.03	$5,946
02370.01	Erosion Control Allowance	rf	140.0	$8.65	$1,211
02470.01	OCS Pole Foundations	ea	1.5	$4,324.00	$6,486
03210.01	Reinforcing Steel	lb	15,111.1	$1.24	$18,785
03300.02	CIPC, Slab on Grade	cy	40.0	$389.16	$15,566
03300.03	CIPC, Walls	cy	35.6	$702.65	$24,983
09000.01	Architectural Finish, Station	sf	1,920.0	$43.24	$83,021
09000.02	Platform Edge	sf	240.0	$45.40	$10,896
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
10500.01	Station Canopy	sf	600.0	$151.34	$90,804
12000.01	Station Furnishings, Center Platform (Allowance)	sta	0.7	$75,670.00	$52,969
15800.01	Station Mechanical (Allowance)	sf	2,160.0	$11.89	$25,685
16000.01	Station Electrical (Allowance)	sf	2,160.0	$27.03	$58,374
16060.01	Corrosion Control, At-Grade	lf	120.0	$2.16	$259
16130.21	Ductbank, At Grade Guideway	lf	120.0	$48.65	$5,837
16500.05	Lighting, Stations (Allowance)	sf	2,160.0	$6.49	$14,010
	Mobilization Allowance	5.0%			$28,213
	General Condition Allowance	4.0%			$22,571
ST07	**At-Grade - 18 ft. Center Platform - 1 Platform (120')**	**LS**	**Lump Sum**		**$615,050**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Stations:
At-Grade - 18 ft. Center Platform - 1 Platform (200')
(18' x 200' Platform)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	4,400.0	$4.32	$19,026
02225.01	Pedestrian Access for Stations	sf	2,000.0	$32.43	$64,860
02310.02	Finish Grading	sf	4,400.0	$0.86	$3,805
02315.01	Excavation w/haul	cy	325.9	$14.05	$4,580
02315.10	Structural Excavation	cy	66.7	$16.22	$1,081
02315.11	Structural Backfill	cy	411.1	$27.03	$11,110
02370.01	Erosion Control Allowance	rf	220.0	$8.65	$1,903
02470.01	OCS Pole Foundations	ea	3.0	$4,324.00	$12,972
03210.01	Reinforcing Steel	lb	26,666.7	$1.24	$33,151
03300.02	CIPC, Slab on Grade	cy	74.1	$389.16	$28,827
03300.03	CIPC, Walls	cy	59.3	$702.65	$41,639
09000.01	Architectural Finish, Station	sf	3,600.0	$43.24	$155,664
09000.02	Platform Edge	sf	400.0	$45.40	$18,161
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
10500.01	Station Canopy	sf	1,000.0	$151.34	$151,340
12000.01	Station Furnishings, Center Platform (Allowance)	sta	1.0	$75,670.00	$75,670
15800.01	Station Mechanical (Allowance)	sf	4,000.0	$11.89	$47,564
16000.01	Station Electrical (Allowance)	sf	4,000.0	$27.03	$108,100
16060.01	Corrosion Control, At-Grade	lf	200.0	$2.16	$432
16130.21	Ductbank, At Grade Guideway	lf	200.0	$48.65	$9,729
16500.05	Lighting, Stations (Allowance)	sf	4,000.0	$6.49	$25,944
	Mobilization Allowance	5.0%			$44,102
	General Condition Allowance	4.0%			$35,282
ST08	**At-Grade - 18 ft. Center Platform - 1 Platform (200')**	**LS**	**Lump Sum**		**$961,422**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Stations:
At-Grade - 12 ft. Side Platforms - 2 Platforms (225')
(2 - 12' x 225' Platforms)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	6,860.0	$4.32	$29,663
02225.01	Pedestrian Access for Stations	sf	2,000.0	$32.43	$64,860
02310.02	Finish Grading	sf	6,860.0	$0.86	$5,933
02315.01	Excavation w/haul	cy	508.1	$14.05	$7,141
02315.10	Structural Excavation	cy	150.0	$16.22	$2,432
02315.11	Structural Backfill	cy	525.0	$27.03	$14,188
02370.01	Erosion Control Allowance	rf	490.0	$8.65	$4,238
02470.01	OCS Pole Foundations	ea	3.0	$4,324.00	$12,972
03210.01	Reinforcing Steel	lb	46,666.7	$1.24	$58,014
03300.02	CIPC, Slab on Grade	cy	100.0	$389.16	$38,916
03300.03	CIPC, Walls	cy	133.3	$702.65	$93,687
09000.01	Architectural Finish, Station	sf	4,950.0	$43.24	$214,038
09000.02	Platform Edge	sf	450.0	$45.40	$20,431
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
10500.01	Station Canopy	sf	1,575.0	$151.34	$238,361
12000.02	Station Furnishings, Side Platform (Allowance)	sta	1.0	$121,072.00	$121,072
15800.01	Station Mechanical (Allowance)	sf	5,400.0	$11.89	$64,211
16000.01	Station Electrical (Allowance)	sf	5,400.0	$27.03	$145,935
16060.01	Corrosion Control, At-Grade	lf	450.0	$2.16	$973
16130.21	Ductbank, At Grade Guideway	lf	450.0	$48.65	$21,890
16500.05	Lighting, Stations (Allowance)	sf	5,400.0	$6.49	$35,024
	Mobilization Allowance	5.0%			$63,023
	General Condition Allowance	4.0%			$50,418
ST10	**At-Grade - 12 ft. Side Platforms - 2 Platforms (225')**	**LS**	**Lump Sum**		**$1,373,901**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
At-Grade - 12 ft. Split Side Platforms - 2 Platforms (180')
(2 - 12' x 180' Platforms)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	5,600.0	$4.32	$24,214
02225.01	Pedestrian Access for Stations	sf	2,000.0	$32.43	$64,860
02310.02	Finish Grading	sf	5,600.0	$0.86	$4,843
02315.01	Excavation w/haul	cy	414.8	$14.05	$5,829
02315.10	Structural Excavation	cy	120.0	$16.22	$1,946
02315.11	Structural Backfill	cy	420.0	$27.03	$11,351
02370.01	Erosion Control Allowance	rf	400.0	$8.65	$3,459
02470.01	OCS Pole Foundations	ea	2.0	$4,324.00	$8,648
03210.01	Reinforcing Steel	lb	37,333.3	$1.24	$46,411
03300.02	CIPC, Slab on Grade	cy	80.0	$389.16	$31,133
03300.03	CIPC, Walls	cy	106.7	$702.65	$74,949
09000.01	Architectural Finish, Station	sf	3,960.0	$43.24	$171,230
09000.02	Platform Edge	sf	360.0	$45.40	$16,345
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
10500.01	Station Canopy	sf	1,260.0	$151.34	$190,688
12000.02	Station Furnishings, Side Platform (Allowance)	sta	1.0	$121,072.00	$121,072
15800.01	Station Mechanical (Allowance)	sf	4,320.0	$11.89	$51,369
16000.01	Station Electrical (Allowance)	sf	4,320.0	$27.03	$116,748
16060.01	Corrosion Control, At-Grade	lf	360.0	$2.16	$778
16130.21	Ductbank, At Grade Guideway	lf	360.0	$48.65	$17,512
16500.05	Lighting, Stations (Allowance)	sf	4,320.0	$6.49	$28,020
	Mobilization Allowance	5.0%			$52,894
	General Condition Allowance	4.0%			$42,315
ST11	**At-Grade - 12 ft. Split Side Platforms - 2 Platforms (180')**	**LS**	**Lump Sum**		**$1,153,097**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
At-Grade - 14 ft. Side Platforms - 2 Platforms (180')
(2 - 14' x 180' Platforms)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	6,400.0	$4.32	$27,674
02225.01	Pedestrian Access for Stations	sf	2,000.0	$32.43	$64,860
02310.02	Finish Grading	sf	6,400.0	$0.86	$5,535
02315.01	Excavation w/haul	cy	474.1	$14.05	$6,662
02315.10	Structural Excavation	cy	120.0	$16.22	$1,946
02315.11	Structural Backfill	cy	420.0	$27.03	$11,351
02370.01	Erosion Control Allowance	rf	200.0	$8.65	$1,730
02470.01	OCS Pole Foundations	ea	2.0	$4,324.00	$8,648
03210.01	Reinforcing Steel	lb	40,000.0	$1.24	$49,726
03300.02	CIPC, Slab on Grade	cy	93.3	$389.16	$36,322
03300.03	CIPC, Walls	cy	106.7	$702.65	$74,949
09000.01	Architectural Finish, Station	sf	4,680.0	$43.24	$202,363
09000.02	Platform Edge	sf	360.0	$45.40	$16,345
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
10500.01	Station Canopy	sf	1,440.0	$151.34	$217,930
12000.02	Station Furnishings, Side Platform (Allowance)	sta	1.0	$121,072.00	$121,072
15800.01	Station Mechanical (Allowance)	sf	5,040.0	$11.89	$59,931
16000.01	Station Electrical (Allowance)	sf	5,040.0	$27.03	$136,206
16060.01	Corrosion Control, At-Grade	lf	180.0	$2.16	$389
16130.21	Ductbank, At Grade Guideway	lf	180.0	$48.65	$8,756
16500.05	Lighting, Stations (Allowance)	sf	5,040.0	$6.49	$32,689
	Mobilization Allowance	5.0%			$57,578
	General Condition Allowance	4.0%			$46,063
ST12	**At-Grade - 14 ft. Side Platforms - 2 Platforms (180')**	**LS**	**Lump Sum**		**$1,255,204**

Stations

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
At-Grade - 12 ft. Side Platform - 1 Platform (180')
(1 - 12' x 180' Platforms)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	2,800.0	$4.32	$12,107
02225.01	Pedestrian Access for Stations	sf	2,000.0	$32.43	$64,860
02310.02	Finish Grading	sf	2,800.0	$0.86	$2,421
02315.01	Excavation w/haul	cy	207.4	$14.05	$2,915
02315.10	Structural Excavation	cy	66.7	$16.22	$1,081
02315.11	Structural Backfill	cy	233.3	$27.03	$6,306
02370.01	Erosion Control Allowance	rf	180.0	$8.65	$1,557
02470.01	OCS Pole Foundations	ea	2.0	$4,324.00	$8,648
03210.01	Reinforcing Steel	lb	18,666.7	$1.24	$23,205
03300.02	CIPC, Slab on Grade	cy	40.0	$389.16	$15,566
03300.03	CIPC, Walls	cy	53.3	$702.65	$37,475
09000.01	Architectural Finish, Station	sf	1,980.0	$43.24	$85,615
09000.02	Platform Edge	sf	180.0	$45.40	$8,172
10100.01	Signage, Station Allowance	sta	0.5	$66,481.50	$33,241
10500.01	Station Canopy	sf	630.0	$151.34	$95,344
12000.02	Station Furnishings, Side Platform (Allowance)	sta	0.5	$121,072.00	$60,536
15800.01	Station Mechanical (Allowance)	sf	2,160.0	$11.89	$25,685
16000.01	Station Electrical (Allowance)	sf	2,160.0	$27.03	$58,374
16060.01	Corrosion Control, At-Grade	lf	180.0	$2.16	$389
16130.21	Ductbank, At Grade Guideway	lf	180.0	$48.65	$8,756
16500.05	Lighting, Stations (Allowance)	sf	2,160.0	$6.49	$14,010
	Mobilization Allowance	5.0%			$28,313
	General Condition Allowance	4.0%			$22,651
ST13	**At-Grade - 12 ft. Side Platform - 1 Platform (180')**	**LS**	**Lump Sum**		**$617,227**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
At-Grade - 12 ft. Side Platforms - 2 Platforms (120')
(2 - 12' x 120' Platforms)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	3,920.0	$4.32	$16,950
02225.01	Pedestrian Access for Stations	sf	2,000.0	$32.43	$64,860
02310.02	Finish Grading	sf	3,920.0	$0.86	$3,390
02315.01	Excavation w/haul	cy	290.4	$14.05	$4,081
02315.10	Structural Excavation	cy	80.0	$16.22	$1,297
02315.11	Structural Backfill	cy	280.0	$27.03	$7,567
02370.01	Erosion Control Allowance	rf	400.0	$8.65	$3,459
02470.01	OCS Pole Foundations	ea	1.5	$4,324.00	$6,486
03210.01	Reinforcing Steel	lb	24,888.9	$1.24	$30,941
03300.02	CIPC, Slab on Grade	cy	53.3	$389.16	$20,755
03300.03	CIPC, Walls	cy	71.1	$702.65	$49,966
09000.01	Architectural Finish, Station	sf	2,640.0	$43.24	$114,154
09000.02	Platform Edge	sf	240.0	$45.40	$10,896
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
10500.01	Station Canopy	sf	840.0	$151.34	$127,126
12000.02	Station Furnishings, Side Platform (Allowance)	sta	1.0	$121,072.00	$121,072
15800.01	Station Mechanical (Allowance)	sf	2,880.0	$11.89	$34,246
16000.01	Station Electrical (Allowance)	sf	2,880.0	$27.03	$77,832
16060.01	Corrosion Control, At-Grade	lf	240.0	$2.16	$519
16130.21	Ductbank, At Grade Guideway	lf	240.0	$48.65	$11,675
16500.05	Lighting, Stations (Allowance)	sf	2,880.0	$6.49	$18,680
	Mobilization Allowance	5.0%			$39,622
	General Condition Allowance	4.0%			$31,697
ST15	**At-Grade - 12 ft. Side Platforms - 2 Platforms (120')**	**LS**	**Lump Sum**		**$863,752**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
At-Grade - 12 ft. Side Platforms - 2 Platforms (200')
(2 - 12' x 200' Platforms)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	6,160.0	$4.32	$26,636
02225.01	Pedestrian Access for Stations	sf	2,000.0	$32.43	$64,860
02310.02	Finish Grading	sf	6,160.0	$0.86	$5,327
02315.01	Excavation w/haul	cy	456.3	$14.05	$6,412
02315.10	Structural Excavation	cy	133.3	$16.22	$2,162
02315.11	Structural Backfill	cy	466.7	$27.03	$12,612
02370.01	Erosion Control Allowance	rf	400.0	$8.65	$3,459
02470.01	OCS Pole Foundations	ea	2.0	$4,324.00	$8,648
03210.01	Reinforcing Steel	lb	41,481.5	$1.24	$51,568
03300.02	CIPC, Slab on Grade	cy	88.9	$389.16	$34,592
03300.03	CIPC, Walls	cy	118.5	$702.65	$83,277
09000.01	Architectural Finish, Station	sf	4,400.0	$43.24	$190,256
09000.02	Platform Edge	sf	400.0	$45.40	$18,161
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
10500.01	Station Canopy	sf	1,400.0	$151.34	$211,876
12000.02	Station Furnishings, Side Platform (Allowance)	sta	1.0	$121,072.00	$121,072
15800.01	Station Mechanical (Allowance)	sf	4,800.0	$11.89	$57,077
16000.01	Station Electrical (Allowance)	sf	4,800.0	$27.03	$129,720
16060.01	Corrosion Control, At-Grade	lf	400.0	$2.16	$865
16130.21	Ductbank, At Grade Guideway	lf	400.0	$48.65	$19,458
16500.05	Lighting, Stations (Allowance)	sf	4,800.0	$6.49	$31,133
	Mobilization Allowance	5.0%			$57,283
	General Condition Allowance	4.0%			$45,826
ST16	**At-Grade - 12 ft. Side Platforms - 2 Platforms (200')**	**LS**	**Lump Sum**		**$1,248,760**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Aerial - 28' Center Platform without Mezz. (225')
(28' x 225' Platform)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	16,660.0	$4.32	$72,038
02225.01	Pedestrian Access for Stations	sf	10,800.0	$32.43	$350,244
02310.02	Finish Grading	sf	10,800.0	$0.86	$9,340
02315.01	Excavation w/haul	cy	400.0	$14.05	$5,621
02370.01	Erosion Control Allowance	rf	245.0	$8.65	$2,119
02465.10	Drilled Shaft, 120" Dia.	vlf	1,200.0	$3,302.46	$3,962,946
02630.12	Trackway Drainage, Aerial	lf	225.0	$54.05	$12,161
03210.01	Reinforcing Steel	lb	510,585.0	$1.24	$634,734
03300.04	CIPC, Columns	cy	500.0	$886.42	$443,210
03300.05	CIPC, Beams	cy	1,705.0	$799.94	$1,363,898
03300.07	CIPC, Elevated Slab	cy	300.0	$767.51	$230,253
03300.20	CIPC, Plinth	cy	47.9	$972.90	$46,626
03410.22	Precast Segmental Box Girder, Single	lf	450.0	$864.80	$389,160
09000.01	Architectural Finish, Station	sf	9,880.0	$43.24	$427,211
09000.02	Platform Edge	sf	450.0	$45.40	$20,431
09000.05	Station Wind Screen	sf	10,035.0	$19.46	$195,261
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
10500.01	Station Canopy	sf	12,160.0	$151.34	$1,840,294
12000.01	Station Furnishings, Center Platform (Allowance)	sta	1.0	$75,670.00	$75,670
14600.21	Stairs Complete, Wide	vf	80.0	$1,470.16	$117,613
15800.01	Station Mechanical (Allowance)	sf	20,680.0	$11.89	$245,906
16000.01	Station Electrical (Allowance)	sf	20,680.0	$27.03	$558,877
16500.05	Lighting, Stations (Allowance)	sf	20,680.0	$6.49	$134,130
	Mobilization Allowance	5.0%			$560,211
	General Condition Allowance	4.0%			$448,169
	Architectural Features Allowance	10.0%			$1,120,422
ST20	**Aerial - 28' Center Platform without Mezz. (225')**	**LS**	**Lump Sum**		**$13,333,027**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Aerial - 28' Center Platform with Mezz. (225')
(28' x 225' Platform)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	16,660.0	$4.32	$72,038
02225.01	Pedestrian Access for Stations	sf	10,800.0	$32.43	$350,244
02310.02	Finish Grading	sf	10,800.0	$0.86	$9,340
02315.01	Excavation w/haul	cy	400.0	$14.05	$5,621
02370.01	Erosion Control Allowance	rf	225.0	$8.65	$1,946
02465.10	Drilled Shaft, 120" Dia.	vlf	1,200.0	$3,302.46	$3,962,946
02630.12	Trackway Drainage, Aerial	lf	225.0	$54.05	$12,161
03210.01	Reinforcing Steel	lb	622,585.0	$1.24	$773,967
03300.04	CIPC, Columns	cy	500.0	$886.42	$443,210
03300.05	CIPC, Beams	cy	2,130.0	$799.94	$1,703,872
03300.07	CIPC, Elevated Slab	cy	435.0	$767.51	$333,867
03300.20	CIPC, Plinth	cy	47.9	$972.90	$46,626
03410.22	Precast Segmental Box Girder, Single	lf	450.0	$864.80	$389,160
09000.01	Architectural Finish, Station	sf	14,744.0	$43.24	$637,531
09000.02	Platform Edge	sf	450.0	$45.40	$20,431
09000.05	Station Wind Screen	sf	12,980.0	$19.46	$252,565
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
10500.01	Station Canopy	sf	12,160.0	$151.34	$1,840,294
12000.01	Station Furnishings, Center Platform (Allowance)	sta	1.0	$75,670.00	$75,670
14600.21	Stairs Complete, Wide	vf	80.0	$1,470.16	$117,613
15800.01	Station Mechanical (Allowance)	sf	25,544.0	$11.89	$303,744
16000.01	Station Electrical (Allowance)	sf	25,544.0	$27.03	$690,327
16500.05	Lighting, Stations (Allowance)	sf	25,544.0	$6.49	$165,678
	Mobilization Allowance	5.0%			$613,767
	General Condition Allowance	4.0%			$491,013
	Architectural Features Allowance	10.0%			$1,227,533
ST21	**Aerial - 28' Center Platform with Mezz. (225')**	**LS**	**Lump Sum**		**$14,607,644**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Aerial - 30' Center Platform with Mezz. (225')
(30' x 225' Platform)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	17,150.0	$4.32	$74,157
02225.01	Pedestrian Access for Stations	sf	11,250.0	$32.43	$364,838
02310.02	Finish Grading	sf	11,250.0	$0.86	$9,729
02315.01	Excavation w/haul	cy	416.7	$14.05	$5,855
02370.01	Erosion Control Allowance	rf	225.0	$8.65	$1,946
02465.10	Drilled Shaft, 120" Dia.	vlf	1,200.0	$3,302.46	$3,962,946
02630.12	Trackway Drainage, Aerial	lf	225.0	$54.05	$12,161
03210.01	Reinforcing Steel	lb	663,625.0	$1.24	$824,985
03300.04	CIPC, Columns	cy	500.0	$886.42	$443,210
03300.05	CIPC, Beams	cy	2,300.4	$799.94	$1,840,182
03300.07	CIPC, Elevated Slab	cy	469.8	$767.51	$360,576
03300.20	CIPC, Plinth	cy	47.9	$972.90	$46,626
03410.22	Precast Segmental Box Girder, Single	lf	450.0	$864.80	$389,160
09000.01	Architectural Finish, Station	sf	15,923.5	$43.24	$688,533
09000.02	Platform Edge	sf	450.0	$45.40	$20,431
09000.05	Station Wind Screen	sf	12,980.0	$19.46	$252,565
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
10500.01	Station Canopy	sf	13,132.8	$151.34	$1,987,518
12000.01	Station Furnishings, Center Platform (Allowance)	sta	1.0	$75,670.00	$75,670
14600.21	Stairs Complete, Wide	vf	80.0	$1,470.16	$117,613
15800.01	Station Mechanical (Allowance)	sf	27,173.5	$11.89	$323,120
16000.01	Station Electrical (Allowance)	sf	27,173.5	$27.03	$734,364
16500.05	Lighting, Stations (Allowance)	sf	27,173.5	$6.49	$176,247
	Mobilization Allowance	5.0%			$638,946
	General Condition Allowance	4.0%			$511,157
	Architectural Features Allowance	10.0%			$1,277,891
ST23	**Aerial - 30' Center Platform with Mezz. (225')**	**LS**	**Lump Sum**		**$15,206,908**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Cut & Cover - 30' Center Platform (225')
(30' x 225' Platform)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION (Assume station depth of 50')				
01560.03	Traffic Control Allowance, Level 3	rf	464	$216.20	$100,209
02220.99	Site Demolition Allowance	sf	26,600.0	$4.32	$115,018
02240.01	Dewatering Allowance	rf	464	$270.25	$125,261
02250.01	Steel Sheet Pile	sf	1,410	$43.24	$60,968
02260.08	Secant Pile Wall, > 71' Ht.	sf	5,800	$210.80	$1,222,611
02260.20	Soil Nails	lf	12,000	$37.84	$454,020
02310.02	Finish Grading	sf	23,990	$0.86	$20,747
02315.20	Cut & Cover Excavation	cy	38,744	$32.43	$1,256,482
02315.21	Cut & Cover Backfill	cy	7,879	$37.84	$298,106
02340.10	Mud Slab	cy	230	$162.15	$37,295
02370.01	Erosion Control Allowance	rf	927	$8.65	$8,017
02410.06	Shotcrete	cy	150	$270.25	$40,538
02620.10	Composite Drainage Board	sf	5,800	$2.16	$12,540
02630.11	Trackway Drainage, Tunnel	lf	827	$91.89	$75,989
03210.01	Reinforcing Steel	lb	400,500	$1.24	$497,882
03300.08	CIPC, C&C Slab on Grade	cy	2,670	$410.78	$1,096,783
15300.01	Fire Protection Piping, Tunnel	lf	827.0	$237.82	$196,677
15700.02	Subsurface Ventilation	lf	827.0	$681.03	$563,212
16130.23	Ductbank, Tunnel Guideway	lf	827.0	$75.67	$62,579
16500.04	Lighting, Underground Guideway	lf	827.0	$147.02	$121,582
	Subtotal Cut & Cover Station Box (Carried forward to next page)				$6,366,514

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Cut & Cover - 30' Center Platform (225')

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
	Subtotal Cut & Cover Station Box (Carried forward from previous page)				$6,366,514
03210.01	Reinforcing Steel	lb	2,029,230	$1.24	$2,522,638
03300.02	CIPC, Slab on Grade	cy	3,700	$389.16	$1,439,892
03300.03	CIPC, Walls	cy	540	$702.65	$379,431
03300.05	CIPC, Beams	cy	1,180	$799.94	$943,929
03300.07	CIPC, Elevated Slab	cy	750	$767.51	$575,633
03300.12	CIPC, C&C Roof Slab	cy	3,800	$702.65	$2,670,070
03300.20	CIPC, Plinth	cy	176	$972.90	$171,377
07130.21	Sheet Waterproofing	sf	65,250	$6.49	$423,212
09000.01	Architectural Finish, Station	sf	33,210	$43.24	$1,436,000
09000.02	Platform Edge	sf	527	$45.40	$23,927
10100.01	Signage, Station Allowance	sta	1	$66,481.50	$66,482
12000.01	Station Furnishings, Center Platform (Allowance)	sta	1	$75,670.00	$75,670
14600.21	Stairs Complete, Wide	vf	80	$1,470.16	$117,613
15700.10	Ventilation Equipment (Allowance)	ea	2	$864,800.00	$1,729,600
15800.02	Station Mechanical & HVAC (Allowance)	sf	33,210	$29.19	$969,300
16000.01	Station Electrical (Allowance)	sf	33,210	$27.03	$897,500
16500.05	Lighting, Stations (Allowance)	sf	33,210	$6.49	$215,400
	Mobilization Allowance	5.0%			$1,051,209
	General Condition Allowance	4.0%			$840,967
	Architectural Features Allowance	10.0%			$1,465,767
ST30	**Cut & Cover - 30' Center Platform (225')**	**LS**	**Lump Sum**		**$24,382,131**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Mined - 30' Center Platform (225')
(30' x 225' Platform)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION (Assume station depth of 50')				
01560.03	Traffic Control Allowance, Level 3	rf	150	$216.20	$32,430
02220.99	Site Demolition Allowance	sf	8,700.0	$4.32	$37,619
02240.01	Dewatering Allowance	rf	464	$270.25	$125,396
02250.01	Steel Sheet Pile	sf	4,500	$43.24	$194,580
02260.08	Secant Pile Wall, > 71' Ht.	sf	17,750	$210.80	$3,741,611
02260.20	Soil Nails	lf	14,100	$37.84	$533,474
02310.02	Finish Grading	sf	28,600	$0.86	$24,733
02315.20	Cut & Cover Excavation	cy	11,800	$32.43	$382,674
02340.10	Mud Slab	cy	260	$162.15	$42,159
02370.01	Erosion Control Allowance	rf	300	$8.65	$2,594
02410.01	Station Excavation & Support, Mined	cy	55,500	$432.40	$23,998,200
02410.06	Shotcrete	cy	704	$270.25	$190,176
02630.11	Trackway Drainage, Tunnel	lf	928	$91.89	$85,269
03210.01	Reinforcing Steel	lb	468,000	$1.24	$581,794
03300.08	CIPC, C&C Slab on Grade	cy	3,120	$410.78	$1,281,634
15300.01	Fire Protection Piping, Tunnel	lf	928.0	$237.82	$220,697
15700.02	Subsurface Ventilation	lf	928.0	$681.03	$631,996
16130.23	Ductbank, Tunnel Guideway	lf	928.0	$75.67	$70,222
16500.04	Lighting, Underground Guideway	lf	928.0	$147.02	$136,431
	Subtotal Mined Station (Carried forward to next page)				$32,313,689

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Mined - 30' Center Platform (225')

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
	Subtotal Mined Station (Carried forward from previous page)				$32,313,689
03210.01	Reinforcing Steel	lb	2,029,230	$1.24	$2,522,638
03300.02	CIPC, Slab on Grade	cy	3,700	$389.16	$1,439,892
03300.03	CIPC, Walls	cy	540	$702.65	$379,431
03300.05	CIPC, Beams	cy	1,180	$799.94	$943,929
03300.07	CIPC, Elevated Slab	cy	750	$767.51	$575,633
03300.12	CIPC, C&C Roof Slab	cy	3,800	$702.65	$2,670,070
03300.20	CIPC, Plinth	cy	176	$972.90	$171,377
07130.21	Sheet Waterproofing	sf	65,250	$6.49	$423,212
09000.01	Architectural Finish, Station	sf	33,210	$43.24	$1,436,000
09000.02	Platform Edge	sf	527	$45.40	$23,927
10100.01	Signage, Station Allowance	sta	1	$66,481.50	$66,482
12000.01	Station Furnishings, Center Platform (Allowance)	sta	1	$75,670.00	$75,670
14600.21	Stairs Complete, Wide	vf	80	$1,470.16	$117,613
15700.10	Ventilation Equipment (Allowance)	ea	2	$864,800.00	$1,729,600
15800.02	Station Mechanical & HVAC (Allowance)	sf	33,210	$29.19	$969,300
16000.01	Station Electrical (Allowance)	sf	33,210	$27.03	$897,500
16500.05	Lighting, Stations (Allowance)	sf	33,210	$6.49	$215,400
	Mobilization Allowance	5.0%			$2,348,568
	General Condition Allowance	4.0%			$1,878,854
	Architectural Features Allowance	10.0%			$1,465,767
ST35	**Mined - 30' Center Platform (225')**	**LS**	**Lump Sum**		**$52,664,552**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
At-Grade - Streetcar Stop, Side Platform
(12' x 150' Platform)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	2,160	$4.32	$9,340
02310.02	Finish Grading	sf	2,160	$0.86	$1,868
02315.01	Excavation w/haul	cy	80	$14.05	$1,124
02370.01	Erosion Control Allowance	rf	180	$8.65	$1,557
02900.02	Landscaping Allowance, Level 2	rf	80	$43.24	$3,459
03210.01	Reinforcing Steel	lb	3,333	$1.24	$4,144
03300.02	CIPC, Slab on Grade	cy	33	$389.16	$12,972
09000.02	Platform Edge	sf	150	$45.40	$6,810
10100.01	Signage, Station Allowance	sta	0.40	$66,481.50	$26,593
10500.05	Streetcar Shelter	sf	240	$91.89	$22,052
12000.05	Station Furnishings, Streetcar Stop (Allowance)	sta	1	$2,162.00	$2,162
16500.05	Lighting, Stations (Allowance)	sf	1,800	$6.49	$11,675
	Mobilization Allowance	5.0%			$5,188
	General Condition Allowance	4.0%			$4,150
ST81	**At-Grade - Streetcar Stop, Side Platform**	**LS**	**Lump Sum**		**$113,094**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
At-Grade - Streetcar Stop, Center Platform
(15' x 150' Platform)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
02220.99	Site Demolition Allowance	sf	2,700	$4.32	$11,675
02310.02	Finish Grading	sf	2,700	$0.86	$2,335
02315.01	Excavation w/haul	cy	100	$14.05	$1,405
02370.01	Erosion Control Allowance	rf	180	$8.65	$1,557
02900.02	Landscaping Allowance, Level 2	rf	80	$43.24	$3,459
03210.01	Reinforcing Steel	lb	4,167	$1.24	$5,180
03300.02	CIPC, Slab on Grade	cy	42	$389.16	$16,215
09000.02	Platform Edge	sf	300	$45.40	$13,621
10100.01	Signage, Station Allowance	sta	0.40	$66,481.50	$26,593
10500.05	Streetcar Shelter	sf	240	$91.89	$22,052
12000.05	Station Furnishings, Streetcar Stop (Allowance)	sta	1	$2,162.00	$2,162
16500.05	Lighting, Stations (Allowance)	sf	2,250	$6.49	$14,594
	Mobilization Allowance	5.0%			$6,042
	General Condition Allowance	4.0%			$4,834
ST82	**At-Grade - Streetcar Stop, Center Platform**	**LS**	**Lump Sum**		**$131,723**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
At-Grade - Bus Stop - 1 Vehicle Platform
(12' x 50' Platform)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
01560.02	Traffic Control Allowance, Level 2	rf	50.0	$151.34	$7,567
02220.99	Site Demolition Allowance	sf	980.0	$4.32	$4,238
02225.01	Pedestrian Access for Stations	sf	480.0	$32.43	$15,566
02310.02	Finish Grading	sf	980.0	$0.86	$848
02315.01	Excavation w/haul	cy	72.6	$14.05	$1,020
02315.10	Structural Excavation	cy	23.3	$16.22	$378
02315.11	Structural Backfill	cy	81.7	$27.03	$2,207
02370.01	Erosion Control Allowance	rf	50.0	$8.65	$432
03210.01	Reinforcing Steel	lb	5,185.2	$1.24	$6,446
03300.02	CIPC, Slab on Grade	cy	11.1	$389.16	$4,324
03300.03	CIPC, Walls	cy	14.8	$702.65	$10,410
09000.01	Architectural Finish, Station	sf	550.0	$43.24	$23,782
09000.02	Platform Edge	sf	50.0	$45.40	$2,270
10100.01	Signage, Station Allowance	sta	0.5	$66,481.50	$33,241
10500.01	Station Canopy	sf	175.0	$151.34	$26,485
12000.02	Station Furnishings, Side Platform (Allowance)	sta	0.5	$121,072.00	$60,536
15800.01	Station Mechanical (Allowance)	sf	600.0	$11.89	$7,135
16000.01	Station Electrical (Allowance)	sf	600.0	$27.03	$16,215
16500.05	Lighting, Stations (Allowance)	sf	600.0	$6.49	$3,892
	Mobilization Allowance	5.0%			$11,350
	General Condition Allowance	4.0%			$9,080
ST89	**At-Grade - Bus Stop - 1 Vehicle Platform**	**LS**	**Lump Sum**		**$247,420**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Signage and Systems Mod. to Existing Station

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
16700.09	Communication System, Station	ea	1.0	$270,250.00	$270,250
	Mobilization Allowance	5.0%			$16,837
	General Condition Allowance	4.0%			$13,469
ST90	**Signage and Systems Mod. to Existing Station**	**LS**	**Lump Sum**		**$367,037**

Stations

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Signage Mod. to Existing Station

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
	Allowance for retrofitting existing station	20.0%			$13,296
	Mobilization Allowance	5.0%			$3,989
	General Condition Allowance	4.0%			$3,191
ST91	**Signage Mod. to Existing Station**	**LS**	**Lump Sum**		**$86,958**

Stations

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Station Pedestrian Bridge

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON TYPICAL SPAN OF 120 ft. and WIDTH OF 25 ft.				
02630.12	Trackway Drainage, Aerial	lf	120.0	$54.05	$6,486
02850.01	Pedestrian Bridge Structure, Allowance	sf	3,000.0	$162.15	$486,450
09000.01	Architectural Finish, Station	sf	3,000.0	$43.24	$129,720
16500.05	Lighting, Stations (Allowance)	sf	3,000.0	$6.49	$19,458
	Mobilization Allowance	5.0%			$32,106
	General Condition Allowance	4.0%			$25,685
	TOTAL COST PER 120 FEET				**$699,904**
PA01	**Station Pedestrian Bridge**	**LF**	**Linear Foot**		**$5,833**

Stations

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Station Pedestrian Access Cut & Cover Box

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON LENGTH OF 150 ft.				
02220.99	Site Demolition Allowance	sf	4,500.0	$4.32	$19,458
02225.01	Pedestrian Access for Stations	sf	5,000.0	$32.43	$162,150
02250.01	Steel Sheet Pile	sf	14,850.0	$43.24	$642,114
02260.50	Street Decking	sf	4,500.0	$54.05	$243,225
02310.01	Rough Grading	sf	4,500.0	$0.70	$3,162
02315.20	Cut & Cover Excavation	cy	7,500.0	$32.43	$243,225
02315.21	Cut & Cover Backfill	cy	3,333.3	$37.84	$126,117
02370.01	Erosion Control Allowance	rf	300.0	$8.65	$2,594
02620.02	Underdrains	lf	300.0	$8.65	$2,594
02630.11	Trackway Drainage, Tunnel	lf	150.0	$91.89	$13,783
03210.01	Reinforcing Steel	lb	291,666.7	$1.24	$362,585
03300.08	CIPC, C&C Slab on Grade	cy	250.0	$410.78	$102,695
03300.09	CIPC, C&C Exterior Walls, Formed 1 Side	cy	347.2	$475.64	$165,153
03300.12	CIPC, C&C Roof Slab	cy	375.0	$702.65	$263,494
03300.99	CIPC, Miscellaneous Structures	cy	194.4	$940.47	$182,869
05120.05	Structural Steel, Misc.	lb	25,000.0	$4.32	$108,100
07130.21	Sheet Waterproofing	sf	9,000.0	$6.49	$58,374
09000.01	Architectural Finish, Station	sf	2,250.0	$43.24	$97,290
10100.01	Signage, Station Allowance	sta	0.5	$66,481.50	$33,241
15800.01	Station Mechanical (Allowance)	sf	2,250.0	$11.89	$26,755
16000.01	Station Electrical (Allowance)	sf	2,250.0	$27.03	$60,806
16500.05	Lighting, Stations (Allowance)	sf	2,250.0	$6.49	$14,594
	Mobilization Allowance	5.0%			$146,719
	General Condition Allowance	4.0%			$117,375
TOTAL COST PER 150 FEET					**$3,198,471**
PA05	**Station Pedestrian Access Cut & Cover Box**	**LF**	**Linear Foot**		**$21,323**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Station Pedestrian Access - Plaza

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON CONSTRUCTING 2,000 SF PLAZA				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	55.6	$1.03	$57
02310.02	Finish Grading	sf	2,000.0	$0.86	$1,730
02315.01	Excavation w/haul	cy	200.0	$14.05	$2,811
02370.01	Erosion Control Allowance	rf	1,200.0	$8.65	$10,378
02630.25	Storm Water Management Piping	sf	2,000.0	$2.70	$5,405
02720.02	Aggregate Base	cy	24.1	$32.43	$781
02770.03	Concrete Curb and Gutter	lf	65.0	$18.38	$1,195
02775.01	Concrete Sidewalk	sy	11.1	$29.19	$324
02780.05	Brick Pavers	sy	144.4	$151.34	$21,860
02900.05	Landscaping Allowance, Site	sf	600.0	$2.16	$1,297
16500.07	Lighting, Area	sf	2,000.0	$4.32	$8,648
	Mobilization Allowance	5.0%			$2,724
	General Condition Allowance	4.0%			$2,179
	TOTAL COST PER 2,000 SF				**$59,388**
PA10	**Station Pedestrian Access - Plaza**	**SF**	**Square Foot**		**$30**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Station Pedestrian Vertical Access, to 25ft.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER LOCATION				
02225.01	Pedestrian Access for Stations	sf	1,000.0	$32.43	$32,430
02230.01	Clearing & Grubbing Allowance, Level 1	sy	111.1	$0.70	$78
02310.02	Finish Grading	sf	1,000.0	$0.86	$865
09000.01	Architectural Finish, Station	sf	1,000.0	$43.24	$43,240
10100.01	Signage, Station Allowance	sta	0.3	$66,481.50	$16,620
13000.10	Pedestrian Access Structure	sf	1,000.0	$151.34	$151,340
14600.21	Stairs Complete, Wide	vf	25.0	$1,470.16	$36,754
15800.01	Station Mechanical (Allowance)	sf	1,000.0	$11.89	$11,891
16000.01	Station Electrical (Allowance)	sf	1,000.0	$27.03	$27,025
16500.05	Lighting, Stations (Allowance)	sf	1,000.0	$6.49	$6,486
	Mobilization Allowance	5.0%			$16,336
	General Condition Allowance	4.0%			$13,069
PA20	**Station Pedestrian Vertical Access, to 25ft.**	**EA**	**Each**		**$356,135**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Pedestrian Vertical Access - Elevator, 25ft.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER LOCATION				
13000.10	Pedestrian Access Structure	sf	100.0	$151.34	$15,134
14600.10	Elevators, 25 ft. Rise	ea	1.0	$145,935.00	$145,935
	Mobilization Allowance	5.0%			$8,053
	General Condition Allowance	4.0%			$6,443
PA30	**Pedestrian Vertical Access - Elevator, 25ft.**	**EA**	**Each**		**$175,565**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Pedestrian Vertical Access - Elevator, 40ft.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER LOCATION				
13000.10	Pedestrian Access Structure	sf	100.0	$151.34	$15,134
14600.11	Elevators,40 ft. Rise	ea	1.0	$222,686.00	$222,686
	Mobilization Allowance	5.0%			$11,891
	General Condition Allowance	4.0%			$9,513
PA31	**Pedestrian Vertical Access - Elevator, 40ft.**	**EA**	**Each**		**$259,224**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Pedestrian Vertical Access - Elevator, 60ft.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER LOCATION				
13000.10	Pedestrian Access Structure	sf	150.0	$151.34	$22,701
14600.12	Elevators,60 ft. Rise	ea	1.0	$312,409.00	$312,409
	Mobilization Allowance	5.0%			$16,756
	General Condition Allowance	4.0%			$13,404
PA32	**Pedestrian Vertical Access - Elevator, 60ft.**	**EA**	**Each**		**$365,270**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Pedestrian Vertical Access - Elevator, 90ft.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER LOCATION				
13000.10	Pedestrian Access Structure	sf	250.0	$151.34	$37,835
14600.14	Elevators, 90 ft. Rise	ea	1.0	$432,400.00	$432,400
	Mobilization Allowance	5.0%			$23,512
	General Condition Allowance	4.0%			$18,809
PA33	**Pedestrian Vertical Access - Elevator, 90ft.**	**EA**	**Each**		**$512,556**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Pedestrian Vertical Access - Escalator, 25ft.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER LOCATION				
14600.01	Escalators, to 25 ft. Rise	ea	1.0	$210,795.00	$210,795
	Mobilization Allowance	5.0%			$10,540
	General Condition Allowance	4.0%			$8,432
PA35	**Pedestrian Vertical Access - Escalator, 25ft.**	**EA**	**Each**		**$229,767**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Pedestrian Vertical Access - Escalator, 40ft.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER LOCATION				
14600.02	Escalators, 36 ft. to 40 ft. Rise	ea	1.0	$287,546.00	$287,546
	Mobilization Allowance	5.0%			$14,377
	General Condition Allowance	4.0%			$11,502
PA36	**Pedestrian Vertical Access - Escalator, 40ft.**	**EA**	**Each**		**$313,425**

Stations

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Pedestrian Vertical Access - Escalator, 60ft.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER LOCATION				
14600.03	Escalators, 56 ft. to 60 ft. Rise	ea	1.0	$343,758.00	$343,758
	Mobilization Allowance	5.0%			$17,188
	General Condition Allowance	4.0%			$13,750
PA37	**Pedestrian Vertical Access - Escalator, 60ft.**	**EA**	**Each**		**$374,696**

Stations

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Pedestrian Vertical Access - Escalator, 90ft.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER LOCATION				
14600.04	Escalators, 71 ft. to 90 ft. Rise	ea	1.0	$358,892.00	$358,892
	Mobilization Allowance	5.0%			$17,945
	General Condition Allowance	4.0%			$14,356
PA38	**Pedestrian Vertical Access - Escalator, 90ft.**	**EA**	**Each**		**$391,192**

Stations

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Station Site Facilities - Surface Parking

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON CONSTRUCTING 500 SPACE LOT				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	22,250.0	$1.03	$22,850
02310.02	Finish Grading	sf	175,000.0	$0.86	$151,340
02315.01	Excavation w/haul	cy	13,000.0	$14.05	$182,689
02370.01	Erosion Control Allowance	rf	1,800.0	$8.65	$15,566
02630.01	Pavement Drainage, Allowance	lf	1,000.0	$81.08	$81,075
02630.25	Storm Water Management Piping	sf	175,000.0	$2.70	$472,938
02720.02	Aggregate Base	cy	4,280.0	$32.43	$138,800
02740.05	Asphalt Concrete Pavement	tn	3,210.0	$86.48	$277,601
02766.02	Misc. Signing and Striping, Parking Lot	sf	165,000.0	$0.54	$89,183
02770.03	Concrete Curb and Gutter	lf	3,250.0	$18.38	$59,725
02775.01	Concrete Sidewalk	sy	725.0	$29.19	$21,161
02810.02	Irrigation System Allowance, Level 2	rf	3,250.0	$43.24	$140,530
02900.02	Landscaping Allowance, Level 2	rf	3,250.0	$43.24	$140,530
11155.15	Fare Collection, Parking Lot / Garage	ea	1.0	$64,860.00	$64,860
16500.07	Lighting, Area	sf	82,500.0	$4.32	$356,730
	Mobilization Allowance	5.0%			$110,779
	General Condition Allowance	4.0%			$88,623
	TOTAL COST PER 500 SPACE				**$2,414,979**
SF02	**Station Site Facilities - Surface Parking**	**SP**	**Space**		**$4,830**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Station Site Facilities - Bus / Shuttle Bays

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON CONSTRUCTING 10 BAYS				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	560.0	$1.03	$575
02310.02	Finish Grading	sf	4,375.0	$0.86	$3,784
02315.01	Excavation w/haul	cy	400.0	$14.05	$5,621
02370.01	Erosion Control Allowance	rf	50.0	$8.65	$432
02630.01	Pavement Drainage, Allowance	lf	25.0	$81.08	$2,027
02630.20	Storm Water Management Pond	sy	60.0	$16.22	$973
02720.02	Aggregate Base	cy	107.0	$32.43	$3,470
02740.05	Asphalt Concrete Pavement	tn	100.0	$86.48	$8,648
02766.02	Misc. Signing and Striping, Parking Lot	sf	4,125.0	$0.54	$2,230
02770.03	Concrete Curb and Gutter	lf	80.0	$18.38	$1,470
02775.01	Concrete Sidewalk	sy	18.0	$29.19	$525
02810.02	Irrigation System Allowance, Level 2	rf	80.0	$43.24	$3,459
02900.02	Landscaping Allowance, Level 2	rf	80.0	$43.24	$3,459
16500.07	Lighting, Area	sf	2,062.5	$4.32	$8,918
	Mobilization Allowance	5.0%			$2,280
	General Condition Allowance	4.0%			$1,824
	TOTAL COST PER 10 SPACE				**$49,695**
SF05	**Station Site Facilities - Bus / Shuttle Bays**	**SP**	**Space**		**$4,969**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Station Site Facilities - Intermodal Facility

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON CONSTRUCTING A 90,000 SF FACILITY				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	10,000.0	$1.03	$10,270
02310.02	Finish Grading	sf	90,000.0	$0.86	$77,832
02315.01	Excavation w/haul	cy	16,700.0	$14.05	$234,685
02370.01	Erosion Control Allowance	rf	1,200.0	$8.65	$10,378
02630.01	Pavement Drainage, Allowance	lf	1,000.0	$81.08	$81,075
02630.25	Storm Water Management Piping	sf	90,000.0	$2.70	$243,225
02720.02	Aggregate Base	cy	2,916.7	$32.43	$94,588
02740.05	Asphalt Concrete Pavement	tn	1,540.0	$86.48	$133,179
02766.02	Misc. Signing and Striping, Parking Lot	sf	63,000.0	$0.54	$34,052
02770.03	Concrete Curb and Gutter	lf	3,150.0	$18.38	$57,888
02775.01	Concrete Sidewalk	sy	725.0	$29.19	$21,161
02830.05	CIPC, Retaining Wall, Complete	sf	5,000.0	$49.19	$245,928
02900.05	Landscaping Allowance, Site	sf	27,000.0	$2.16	$58,374
10500.01	Station Canopy	sf	5,000.0	$151.34	$756,700
16500.07	Lighting, Area	sf	63,000.0	$4.32	$272,412
	Mobilization Allowance	5.0%			$116,587
	General Condition Allowance	4.0%			$93,270
	TOTAL COST				**$2,541,601**
SF10	**Station Site Facilities - Intermodal Facility**	**SF**	**Square Foot**		**$28**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Stations:
Station Site Facilities - Parking Garage

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON CONSTRUCTING 2000 SPACE GARAGE				
02230.02	Clearing & Grubbing Allowance, Level 2	sy	18,900.0	$1.03	$19,409
02310.02	Finish Grading	sf	160,000.0	$0.86	$138,368
02315.01	Excavation w/haul	cy	11,900.0	$14.05	$167,231
02315.10	Structural Excavation	cy	600.0	$16.22	$9,729
02465.04	Drilled Shaft, 48" Dia.	vlf	16,000.0	$475.64	$7,610,240
02370.01	Erosion Control Allowance	rf	1,600.0	$8.65	$13,837
02630.01	Pavement Drainage, Allowance	lf	800.0	$81.08	$64,860
02766.02	Misc. Signing and Striping, Parking Lot	sf	620,000.0	$0.54	$335,110
02810.02	Irrigation System Allowance, Level 2	rf	16,000.0	$43.24	$691,840
02900.02	Landscaping Allowance, Level 2	rf	16,000.0	$43.24	$691,840
03210.01	Reinforcing Steel	lb	2,216,250.0	$1.24	$2,755,131
03300.01	CIPC, Footings	cy	595.0	$356.73	$212,254
03300.02	CIPC, Slab on Grade	cy	4,300.0	$389.16	$1,673,388
03300.04	CIPC, Columns	cy	1,280.0	$886.42	$1,134,618
03300.07	CIPC, Elevated Slab	cy	8,600.0	$767.51	$6,600,586
03400.03	Precast Prestressed I Beams	lf	80,400.0	$145.94	$11,733,174
05520.01	Metal Pipe and Cable Railing	lf	4,800.0	$64.86	$311,328
05820.01	Elastomeric Bearing Pads	ea	240.0	$648.60	$155,664
14600.11	Elevators,40 ft. Rise	ea	1.0	$222,686.00	$222,686
14600.20	Stairs Complete, Std. Width	vf	96.0	$864.80	$83,021
15800.01	Station Mechanical (Allowance)	sf	40,000.0	$11.89	$475,640
16000.01	Station Electrical (Allowance)	sf	40,000.0	$27.03	$1,081,000
16500.05	Lighting, Stations (Allowance)	sf	40,000.0	$6.49	$259,440
	Mobilization Allowance	5.0%			$1,822,020
	General Condition Allowance	4.0%			$1,457,616
	TOTAL COST PER 2000 SPACE				**$39,720,029**
SF20	**Station Site Facilities - Parking Garage**	**SP**	**Space**		**$19,860**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Yards and Shops
LRT Maintenance Base, < 10 Acres

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON SITE OF 10 ACRES				
02225.05	Civil Site Developent for MSF, Allowance	sf	435,600.0	$10.81	$4,708,836
02500.05	Utility Modifications Allowance, Site	sf	435,600.0	$2.05	$894,679
02740.10	Paving/Sidewalk/Curbs for MSF, Allowance	sf	152,460.0	$3.78	$576,832
02900.05	Landscaping Allowance, Site	sf	165,528.0	$2.16	$357,872
13000.04	MSF Buildings	sf	69,696	$189.18	$13,184,741
13100.12	MSF Equipment - Light, Allowance	ls	1.0	$2,162,000.00	$2,162,000
16500.07	Lighting, Area	sf	121,968.0	$4.32	$527,390
	Mobilization Allowance	5.0%			$1,120,617
	General Condition Allowance	4.0%			$896,494
	TOTAL COST PER 10 ACRES				**$24,429,461**
YS01	**LRT Maintenance Base, < 10 Acres**	**AC**	**Acre**		**$2,450,000**

Yard

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Yards and Shops
BRT Maintenance Base, < 10 Acres

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON SITE OF 10 ACRES				
02225.05	Civil Site Developent for MSF, Allowance	sf	435,600.0	$10.81	$4,708,836
02500.05	Utility Modifications Allowance, Site	sf	435,600.0	$2.05	$894,679
02740.10	Paving/Sidewalk/Curbs for MSF, Allowance	sf	152,460.0	$3.78	$576,832
02900.05	Landscaping Allowance, Site	sf	165,528.0	$2.16	$357,872
13000.04	MSF Buildings	sf	49,696	$189.18	$9,401,241
16500.07	Lighting, Area	sf	121,968.0	$4.32	$527,390
	Mobilization Allowance	5.0%			$823,342
	General Condition Allowance	4.0%			$658,674
	TOTAL COST PER 10 ACRES				**$17,948,866**
YS02	**BRT Maintenance Base, < 10 Acres**	**AC**	**Acre**		**$1,800,000**

Yard

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Yards and Shops
LRT Maintenance Base

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	FACILITY SIZED FOR APPROXIMATELY 40 VEHICLES				
02225.05	Civil Site Developent for MSF, Allowance	sf	1,089,000.0	$10.81	$11,772,090
02500.05	Utility Modifications Allowance, Site	sf	1,089,000.0	$2.05	$2,236,697
02740.10	Paving/Sidewalk/Curbs for MSF, Allowance	sf	326,700.0	$3.78	$1,236,069
02900.05	Landscaping Allowance, Site	sf	490,050.0	$2.16	$1,059,488
13000.04	MSF Buildings	sf	141,570	$189.18	$26,781,505
13100.10	MSF Equipment - Heavy, Allowance	ls	1.0	$7,026,500.00	$7,026,500
16500.07	Lighting, Area	sf	261,360.0	$4.32	$1,130,121
	Mobilization Allowance	5.0%			$2,562,124
	General Condition Allowance	4.0%			$2,049,699
	TOTAL COST PER 40 VEHICLES				**$55,854,292**
YS05	**LRT Maintenance Base**	**EA**	**Each**		**$1,400,000**

Yard

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Yards and Shops
BRT Maintenance Base

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	FACILITY SIZED FOR APPROXIMATELY 150 VEHICLES				
02225.05	Civil Site Developent for MSF, Allowance	sf	1,089,000.0	$10.81	$11,772,090
02500.05	Utility Modifications Allowance, Site	sf	1,089,000.0	$2.05	$2,236,697
02740.10	Paving/Sidewalk/Curbs for MSF, Allowance	sf	326,700.0	$3.78	$1,236,069
02900.05	Landscaping Allowance, Site	sf	490,050.0	$2.16	$1,059,488
13000.04	MSF Buildings	sf	121,570	$189.18	$22,998,005
16500.07	Lighting, Area	sf	261,360.0	$4.32	$1,130,121
	Mobilization Allowance	5.0%			$2,021,624
	General Condition Allowance	4.0%			$1,617,299
	TOTAL COST PER 150 VEHICLES				**$44,071,392**
YS06	**BRT Maintenance Base**	**EA**	**Each**		**$300,000**

Yard

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Yards and Shops
Maintenance Base, Streetcar

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER TRACK FOOT				
02225.05	Civil Site Developent for MSF, Allowance	sf	200,000.0	$10.81	$2,162,000
02500.05	Utility Modifications Allowance, Site	sf	200,000.0	$2.05	$410,780
02740.10	Paving/Sidewalk/Curbs for MSF, Allowance	sf	60,000.0	$3.78	$227,010
02900.05	Landscaping Allowance, Site	sf	90,000.0	$2.16	$194,580
13000.04	MSF Buildings	sf	21,000	$189.18	$3,972,675
13100.12	MSF Equipment - Light, Allowance	ls	1.0	$2,162,000	$2,162,000
16500.07	Lighting, Area	sf	48,000.0	$4.32	$207,552
	Mobilization Allowance	5.0%			$466,830
	General Condition Allowance	4.0%			$373,464
YS08	**Maintenance Base, Streetcar**	**LS**	**Lump Sum**		**$10,176,891**

Yard

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Yards and Shops
Maintenance Facility Upgrade to Heavy Equipment

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER TRACK FOOT				
13000.04	MSF Buildings	sf	20,000	$189.18	$3,783,500
13100.10	MSF Equipment - Heavy, Allowance	ls	1.0	$7,026,500.00	$7,026,500
	Mobilization Allowance	5.0%			$540,500
	General Condition Allowance	4.0%			$432,400
YS10	**Maintenance Facility Upgrade to Heavy Equipment**	**LS**	**Lump Sum**		**$11,782,900**

Yard

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Yards and Shops
Yard Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER TRACK FOOT				
02310.01	Rough Grading	sf	10.0	$0.70	$7
02310.02	Finish Grading	sf	8.0	$0.86	$7
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02470.01	OCS Pole Foundations	ea	0.01	$4,324.00	$48
05650.01	Subballast	cy	0.43	$44.32	$19
05650.05	Ballasted Trackwork, incl/ Ties, Fasteners & Rail	tf	1.0	$232.42	$232
05650.52	Special Trackwork, 25 M Turnout, Embedded	ea	0.002	$135,125.00	$270
16060.01	Corrosion Control, At-Grade	lf	1.0	$2.16	$2
16130.21	Ductbank, At Grade Guideway	lf	1.0	$48.65	$49
	Mobilization Allowance	5.0%			$32
	General Condition Allowance	4.0%			$26
YT01	**Yard Track**	**TF**	**Track Foot**		**$701**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Demolitions
Demolition Allow. - Existing Bridge Structure

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER SQUARE FOOT OF DECK				
01560.02	Traffic Control Allowance, Level 2	rf	0.020	$151.34	$3.03
02220.99	Site Demolition Allowance	sf	1.000	$4.32	$4.32
	Mobilization Allowance	5.0%			$0
	General Condition Allowance	4.0%			$0
DM01	**Demolition Allow. - Existing Bridge Structure**	**SF**	**Square Foot**		**$8.01**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Demolitions
Demolition Allow. - Remove Existing Retaining Wall

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER LINEAR FOOT				
02220.10	Remove Concrete Retaining Wall	sf	10.000	$32.43	$324.30
	Mobilization Allowance	5.0%			$16
	General Condition Allowance	4.0%			$13
DM03	**Demolition Allow. - Remove Existing Retaining Wall**	**LF**	**Linear Foot**		**$353.49**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Demolitions
Demolition Allow. - Remove Existing Pavement

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER SQUARE FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	0.04	$75.67	$3.15
02220.05	Asphalt Pavement Removal	sy	0.11	$7.57	$0.84
	Mobilization Allowance	5.0%			$0
	General Condition Allowance	4.0%			$0
DM04	**Demolition Allow. - Remove Existing Pavement**	**SF**	**Square Foot**		**$4.35**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Demolitions
Demolition Allow. - Existing Building, Moderate

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED 2,500 SF STRUCTURE				
02220.99	Site Demolition Allowance	sf	50	$4.32	$216
02230.02	Clearing & Grubbing Allowance, Level 2	sy	1,111	$1.03	$1,141
02310.01	Rough Grading	sf	2,500	$0.70	$1,757
	Mobilization Allowance	5.0%			$156
	General Condition Allowance	4.0%			$125
DM05	**Demolition Allow. - Existing Building, Moderate**	**EA**	**Each**		**$3,394**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Demolitions
Demolition Allow. - Existing Building

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON 1 SF OF STRUCTURE				
02220.99	Site Demolition Allowance	sf	1	$4.32	$4.32
02230.02	Clearing & Grubbing Allowance, Level 2	sy	0.1	$1.03	$0.11
02310.01	Rough Grading	sf	1	$0.70	$0.70
	Mobilization Allowance	5.0%			$0.26
	General Condition Allowance	4.0%			$0.21
DM06	**Demolition Allow. - Existing Building**	**SF**	**Square Foot**		**$5.59**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Demolitions
Demolition Allow. - Existing Station Structure

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER SQUARE NEAT FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	0.070	$151.34	$10.59
02220.99	Site Demolition Allowance	sf	0.200	$4.32	$0.86
	Mobilization Allowance	5.0%			$0.57
	General Condition Allowance	4.0%			$0.46
DM10	**Demolition Allow. - Existing Station Structure**	**SF**	**Square Foot**		**$12.48**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Demolitions
Demolition Allow. - Existing Site w/Buildings

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON A 20,000 SF SITE WITH 35% COVERAGE WITH BUILDINGS				
02220.20	Disposal Charge-Hazardous Material	cy	1,481	$86.48	$128,119
02220.99	Site Demolition Allowance	sf	180	$4.32	$778
02230.02	Clearing & Grubbing Allowance, Level 2	sy	8,889	$1.03	$9,128
02310.01	Rough Grading	sf	20,000	$0.70	$14,053
02315.01	Excavation w/haul	cy	1,481	$14.05	$20,819
02315.02	Embankment	cy	1,481	$16.22	$24,022
	Mobilization Allowance	5.0%			$9,846
	General Condition Allowance	4.0%			$7,877
	TOTAL COST PER 20,000 SF				**$214,643**
DM30	**Demolition Allow. - Existing Site w/Buildings**	**SF**	**Square Foot**		**$10.73**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Demolitions
Demolition Allow. - Guideway

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02220.80	Guideway Demolition - Allowance	rf	1.0	$97.29	$97
	Mobilization Allowance	5.0%			$5
	General Condition Allowance	4.0%			$4
DM80	**Demolition Allow. - Guideway**	**RF**	**Route Foot**		**$106**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Utility Modifications
Utility Modifications Allow. - Level 1

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02500.01	Utility Modifications Allowance, Level 1	lf	1.0	$162.15	$162
	Mobilization Allowance	5.0%			$8
	General Condition Allowance	4.0%			$6
UM01	**Utility Modifications Allow. - Level 1**	**RF**	**Route Foot**		**$177**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Utility Modifications
Utility Modifications Allow. - Level 2

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02500.02	Utility Modifications Allowance, Level 2	lf	1.0	$399.97	$400
	Mobilization Allowance	5.0%			$20
	General Condition Allowance	4.0%			$16
UM02	**Utility Modifications Allow. - Level 2**	**RF**	**Route Foot**		**$436**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Utility Modifications
Utility Modifications Allow. - Level 3

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02500.03	Utility Modifications Allowance, Level 3	lf	1.0	$670.22	$670
	Mobilization Allowance	5.0%			$34
	General Condition Allowance	4.0%			$27
UM03	**Utility Modifications Allow. - Level 3**	**RF**	**Route Foot**		**$731**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Utility Modifications
Utility Undergrounding Allow.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02500.10	Utility Modifications Allowance, Undergrounding	lf	1.0	$864.80	$865
	Mobilization Allowance	5.0%			$43
	General Condition Allowance	4.0%			$35
UM04	**Utility Undergrounding Allow.**	**RF**	**Route Foot**		**$943**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Utility Modifications
Utility Modifications Allow. - Adjustments

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02500.04	Utility Modifications Allowance, Adjustments	lf	1.0	$21.62	$22
	Mobilization Allowance	5.0%			$1
	General Condition Allowance	4.0%			$1
UM05	**Utility Modifications Allow. - Adjustments**	**RF**	**Route Foot**		**$24**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Utility Modifications
Utility Modifications Allow. - Exclusive ROW

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT (Assume 50% of Level 1)				
02500.01	Utility Modifications Allowance, Level 1	lf	0.5	$162.15	$81
	Mobilization Allowance	5.0%			$4
	General Condition Allowance	4.0%			$3
UM06	**Utility Modifications Allow. - Exclusive ROW**	**RF**	**Route Foot**		**$88**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Utility Modifications
Utility Modifications Allow. - Culvert Extension

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02500.15	Utility Modifications Allowance, Culvert Extension	lf	1.0	$216.20	$216
	Mobilization Allowance	5.0%			$11
	General Condition Allowance	4.0%			$9
UM08	**Utility Modifications Allow. - Culvert Extension**	**RF**	**Route Foot**		**$236**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Utility Modifications
Storm Water Management Allowance

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER SQUARE FOOT				
02630.20	Storm Water Management Pond	sy	0.4	$16.22	$6.49
02630.25	Storm Water Management Piping	sf	1.0	$2.70	$2.70
	Mobilization Allowance	5.0%			$0.46
	General Condition Allowance	4.0%			$0.37
UM10	**Storm Water Management Allowance**	**SF**	**Square Foot**		**$10.02**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Utility Modifications
Utility Modifications Allow. - 30" Waterline

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER LINEAR FOOT				
02500.20	Utility Modifications Allowance, 30" Waterline	lf	1.0	$585.90	$585.90
	Mobilization Allowance	5.0%			$29.30
	General Condition Allowance	4.0%			$23.44
UM20	**Utility Modifications Allow. - 30" Waterline**	**LF**	**Linear Foot**		**$638.63**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Utility Modifications
Utility Modifications Allow. - 42" Waterline

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER LINEAR FOOT				
02500.21	Utility Modifications Allowance, 42" Waterline	lf	1.0	$823.72	$823.72
	Mobilization Allowance	5.0%			$41.19
	General Condition Allowance	4.0%			$32.95
UM21	**Utility Modifications Allow. - 42" Waterline**	**LF**	**Linear Foot**		**$897.85**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Hazardous Material Mitigation
Hazardous Material Removal Allowance

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON ASSUMPTION OF 15% CONTAMINATED SOIL PER ROUTE FOOT				
02110.01	Excavation & Removal of Contaminated Soil	cy	0.3	$172.96	$52
	Mobilization Allowance	5.0%			$3
	General Condition Allowance	4.0%			$2
HM01	**Hazardous Material Removal Allowance**	**RF**	**Route Foot**		**$57.00**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Hazardous Material Mitigation
Hazardous Material Removal Allowance

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON VOID RATIO OF 0.7				
02110.01	Excavation & Removal of Contaminated Soil	cy	0.15	$172.96	$26
	Mobilization Allowance	5.0%			$1
	General Condition Allowance	4.0%			$1
HM05	**Hazardous Material Removal Allowance**	**SF**	**Square Foot**		**$28.00**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Enviromental Mitigation
Enviromental Mitigation Allow. - Level 1

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02120.01	Environmental Mitigation Allowance, Level 1	rf	1.000	$54.05	$54.05
	Mobilization Allowance	5.0%			$2.70
	General Condition Allowance	4.0%			$2.16
EM01	**Enviromental Mitigation Allow. - Level 1**	**RF**	**Route Foot**		**$59**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Enviromental Mitigation
Enviromental Mitigation Allow. - Level 2

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02120.02	Environmental Mitigation Allowance, Level 2	rf	1.000	$129.72	$129.72
	Mobilization Allowance	5.0%			$6.49
	General Condition Allowance	4.0%			$5.19
EM02	**Enviromental Mitigation Allow. - Level 2**	**RF**	**Route Foot**		**$141**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Enviromental Mitigation
Enviromental Mitigation Allow. - Level 3

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02120.03	Environmental Mitigation Allowance, Level 3	rf	1.000	$216.20	$216
	Mobilization Allowance	5.0%			$11
	General Condition Allowance	4.0%			$9
EM03	**Enviromental Mitigation Allow. - Level 3**	**RF**	**Route Foot**		**$236**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Enviromental Mitigation
Residential Noise Mitigation Allow.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02120.10	Residential Sound Mitigation	ea	0.004	$32,430.00	$130
	Mobilization Allowance	5.0%			$6
	General Condition Allowance	4.0%			$5
EM10	**Residential Noise Mitigation Allow.**	**RF**	**Route Foot**		**$141**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Site Structures
Retaining Wall - Secant Pile < 30ft.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON 100 LF OF RETAINING WALL, 30 FT. AVG. HT.				
02260.05	Secant Pile Wall, < 30' Ht.	sf	3,000.0	$302.68	$908,040
03300.05	CIPC, Beams	cy	30.0	$799.94	$23,998
09000.10	Architectural Treatment, Retaining Wall	sf	3,000.0	$16.22	$48,645
	Mobilization Allowance	5.0%			$49,034
	General Condition Allowance	4.0%			$39,227
	TOTAL COST PER 3,000 FEET				**$1,068,945**
RW03	**Retaining Wall - Secant Pile < 30ft.**	**SF**	**Square Foot**		**$356.31**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Site Structures
Retaining Wall

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON SQUARE FOOT				
02830.05	CIPC, Retaining Wall, Complete	sf	1.0	$49.19	$49
	Mobilization Allowance	5.0%			$2
	General Condition Allowance	4.0%			$2
RW04	**Retaining Wall**	**SF**	**Square Foot**		**$54**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Site Structures
Modify Existing Retaining Wall

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON 20 FT. AVG. HT.				
02830.05	CIPC, Retaining Wall, Complete (Assumes 70% of New Wall cost for wall modification)	sf	20.0	$34.43	$689
	Mobilization Allowance	5.0%			$34
	General Condition Allowance	4.0%			$28
RW05	**Modify Existing Retaining Wall**	**RF**	**Route Foot**		**$751**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Site Structures
Crash Wall

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
02455.05	Driven Steel H-Piling	vlf	5.0	$22.70	$114
02830.05	CIPC, Retaining Wall, Complete	sf	6.0	$49.19	$295
	Mobilization Allowance	5.0%			$20
	General Condition Allowance	4.0%			$16
RW06	**Crash Wall**	**RF**	**Route Foot**		**$445**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Site Structures
Sound Wall

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON 15 FT. AVG. HT.				
02840.10	Precast Sound Wall	sf	15.0	$28.11	$422
	Mobilization Allowance	5.0%			$21
	General Condition Allowance	4.0%			$17
SW01	**Sound Wall**	**RF**	**Route Foot**		**$460**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Site Structures
Sound Wall, Remove and Rebuild

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON 20 FT. AVG. HT.				
02220.80	Guideway Demolition - Allowance	rf	1.0	$97.29	$97
02840.10	Precast Sound Wall	sf	20.0	$28.11	$562
	Mobilization Allowance	5.0%			$33
	General Condition Allowance	4.0%			$26
SW05	**Sound Wall, Remove and Rebuild**	**RF**	**Route Foot**		**$719**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Landscaping
Landscaping Allow. - Site

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER SQUARE FOOT				
02900.05	Landscaping Allowance, Site	sf	1.000	$2.16	$2.16
	Mobilization Allowance	5.0%			$0.11
	General Condition Allowance	4.0%			$0.09
LS02	**Landscaping Allow. - Site**	**SF**	**Square Foot**		**$2.35**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Landscaping
Landscaping Allow. - Guideway

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE FOOT (Assume 45% of Route)				
02810.02	Irrigation System Allowance, Level 2	rf	0.450	$43.24	$19.46
02900.01	Landscaping Allowance, Level 1	rf	0.450	$32.43	$14.59
	Mobilization Allowance	5.0%			$1.70
	General Condition Allowance	4.0%			$1.36
LS10	**Landscaping Allow. - Guideway**	**RF**	**Route Foot**		**$37.11**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Landscaping
Green Space Allow. - BRT

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER SQUARE FOOT				
02900.05	Landscaping Allowance, Site	sf	8.330	$2.16	$18.01
	Mobilization Allowance	5.0%			$0.90
	General Condition Allowance	4.0%			$0.72
LS20	**Green Space Allow. - BRT**	**RF**	**Route Foot**		**$19.63**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Landscaping
Green Space Allow. - LRT

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER SQUARE FOOT				
02900.05	Landscaping Allowance, Site	sf	9.170	$2.16	$19.83
	Mobilization Allowance	5.0%			$0.99
	General Condition Allowance	4.0%			$0.79
LS21	**Green Space Allow. - LRT**	**RF**	**Route Foot**		**$21.61**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Landscaping
Pedestrian Trail

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE FOOT (Assume 10" Width and Retaining Wall on 15%)				
02230.01	Clearing & Grubbing Allowance, Level 1	sy	1.11	$0.70	$0.78
02310.02	Finish Grading	sf	10.00	$0.86	$8.65
02315.01	Excavation w/haul	cy	0.37	$14.05	$5.20
02720.02	Aggregate Base	cy	0.19	$32.43	$6.01
02740.05	Asphalt Concrete Pavement	tn	0.18	$86.48	$15.67
02830.05	CIPC, Retaining Wall, Complete	sf	1.20	$49.19	$59.02
12000.10	Site Furnishings, (Allowance)	ea	0.001	$3,243.00	$2.46
	Mobilization Allowance	5.0%			$4.89
	General Condition Allowance	4.0%			$3.91
TR01	**Pedestrian Trail**	**RF**	**Route Foot**		**$106.59**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Landscaping
Pedestrian Trail - Structure

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE FOOT (Assume 10" Width)				
02850.01	Pedestrian Bridge Structure, Allowance	sf	10.0	$162.15	$1,622
16500.05	Lighting, Stations (Allowance)	sf	10.0	$6.49	$65
	Mobilization Allowance	5.0%			$84
	General Condition Allowance	4.0%			$67
TR02	**Pedestrian Trail - Structure**	**RF**	**Route Foot**		**$1,838**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - Full Intersection

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
01560.02	Traffic Control Allowance, Level 2	rf	50.0	$151.34	$7,567
02220.01	Sawcut Asphalt Pavement	lf	290.0	$3.78	$1,097
02220.05	Asphalt Pavement Removal	sy	64.4	$7.57	$488
02370.01	Erosion Control Allowance	rf	50.0	$8.65	$432
02630.01	Pavement Drainage, Allowance	lf	50.0	$81.08	$4,054
02740.05	Asphalt Concrete Pavement	tn	41.69	$86.48	$3,605
02766.01	Misc. Signing and Striping, Roadway Median	lf	350.0	$2.16	$757
02780.05	Brick Pavers	sy	64.4	$151.34	$9,753
02960.01	Pavement Milling, Up to 3" Depth	sy	255.6	$4.32	$1,105
	Mobilization Allowance	5.0%			$1,443
	General Condition Allowance	4.0%			$1,154
RM01	**Roadway Modifications Allow. - Full Intersection**	**EA**	**Each**		**$31,455**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - Half Intersection

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
01560.02	Traffic Control Allowance, Level 2	rf	50.0	$151.34	$7,567
02220.01	Sawcut Asphalt Pavement	lf	145.0	$3.78	$549
02220.05	Asphalt Pavement Removal	sy	32.0	$7.57	$242
02370.01	Erosion Control Allowance	rf	50.0	$8.65	$432
02630.01	Pavement Drainage, Allowance	lf	50.0	$81.08	$4,054
02740.05	Asphalt Concrete Pavement	tn	20.88	$86.48	$1,806
02766.01	Misc. Signing and Striping, Roadway Median	lf	175.0	$2.16	$378
02780.05	Brick Pavers	sy	32.0	$151.34	$4,843
02960.01	Pavement Milling, Up to 3" Depth	sy	128.0	$4.32	$553
	Mobilization Allowance	5.0%			$1,021
	General Condition Allowance	4.0%			$817
RM02	**Roadway Modifications Allow. - Half Intersection**	**EA**	**Each**		**$22,262**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - Queue Jump Lane

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON 1 LANE FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	0.20	$75.67	$15
02230.01	Clearing & Grubbing Allowance, Level 1	sy	1.33	$0.70	$1
02310.01	Rough Grading	sf	12.00	$0.70	$8
02310.02	Finish Grading	sf	12.00	$0.86	$10
02315.01	Excavation w/haul	cy	0.89	$14.05	$12
02370.01	Erosion Control Allowance	rf	1.00	$8.65	$9
02630.01	Pavement Drainage, Allowance	lf	0.20	$81.08	$16
02730.01	Cement Stabilized Base	cy	0.44	$64.86	$29
02740.01	Asphalt Treated Base	tn	0.58	$70.27	$41
02740.05	Asphalt Concrete Pavement	tn	0.11	$86.48	$9
02766.01	Misc. Signing and Striping, Roadway Median	lf	2.00	$2.16	$4
02770.03	Concrete Curb and Gutter	lf	1.00	$18.38	$18
02775.01	Concrete Sidewalk	sy	0.44	$29.19	$13
	Mobilization Allowance	5.0%			$9
	General Condition Allowance	4.0%			$7
RM03	**Roadway Modifications Allow. - Queue Jump Lane**	**LF**	**Lane Foot**		**$204**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - Temporary Paving at BRT Stations

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
02750.05	Temporary Concrete Pavement on Foam	cy	135.0	$275.66	$37,213
	Mobilization Allowance	5.0%			$1,861
	General Condition Allowance	4.0%			$1,489
RM04	**Roadway Modifications Allow. - Temporary Paving at BRT Statio**	**EA**	**Each**		**$40,563**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - 4 Quadrant Gates

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
01560.02	Traffic Control Allowance, Level 2	rf	100.0	$151.34	$15,134
02220.01	Sawcut Asphalt Pavement	lf	60.0	$3.78	$227
02220.05	Asphalt Pavement Removal	sy	166.7	$7.57	$1,261
02370.01	Erosion Control Allowance	rf	100.0	$8.65	$865
02630.01	Pavement Drainage, Allowance	lf	100.0	$81.08	$8,108
02740.05	Asphalt Concrete Pavement	tn	81.56	$86.48	$7,054
02766.01	Misc. Signing and Striping, Roadway Median	lf	100.0	$2.16	$216
02960.01	Pavement Milling, Up to 3" Depth	sy	166.7	$4.32	$721
16700.14	Crossing Gates with Flashers, Relocated	ea	2.0	$64,860.00	$129,720
16700.15	Pedestrian Crossing Gates	ea	2.0	$91,885.00	$183,770
	Mobilization Allowance	5.0%			$17,354
	General Condition Allowance	4.0%			$13,883
RM05	**Roadway Modifications Allow. - 4 Quadrant Gates**	**EA**	**Each**		**$378,312**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - Existing Signal Mod.

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER INTERSECTION				
16700.20	Traffic Signal - Modify Existing	ea	1.0	$75,670.00	$75,670
	Mobilization Allowance	5.0%			$3,784
	General Condition Allowance	4.0%			$3,027
RM20	**Roadway Modifications Allow. - Existing Signal Mod.**	**EA**	**Each**		**$82,480**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - New Signal

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER INTERSECTION				
16700.21	Traffic Signal - New	ea	1.0	$162,150.00	$162,150
	Mobilization Allowance	5.0%			$8,108
	General Condition Allowance	4.0%			$6,486
RM21	**Roadway Modifications Allow. - New Signal**	**EA**	**Each**		**$176,744**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - Signal Prioritization

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER INTERSECTION				
16700.19	Signal Prioritization	ea	1.0	$64,860.00	$64,860
	Mobilization Allowance	5.0%			$3,243
	General Condition Allowance	4.0%			$2,594
RM22	**Roadway Modifications Allow. - Signal Prioritization**	**EA**	**Each**		**$70,697**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - Pedestrian Signal

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER INTERSECTION				
16700.25	Traffic Signal - Pedestrian	ea	1.0	$32,430.00	$32,430
	Mobilization Allowance	5.0%			$1,622
	General Condition Allowance	4.0%			$1,297
RM25	**Roadway Modifications Allow. - Pedestrian Signal**	**EA**	**Each**		**$35,349**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Reconstruction Allow. - Curb, Sidewalk & Retaining Wall

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02220.99	Site Demolition Allowance	sf	11.0	$4.32	$48
02310.01	Rough Grading	sf	11.0	$0.70	$8
02310.02	Finish Grading	sf	10.0	$0.86	$9
02315.01	Excavation w/haul	cy	0.2	$14.05	$3
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02775.01	Concrete Sidewalk	sy	1.1	$29.19	$32
02830.05	CIPC, Retaining Wall, Complete	sf	5.0	$49.19	$246
	Mobilization Allowance	5.0%			$23
	General Condition Allowance	4.0%			$18
RM40	**Roadway Reconstruction Allow. - Curb, Sidewalk & Retaining Wa**	**RF**	**Route Foot**		**$496**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Reconstruction Allow. - Curb & Sidewalk (One Side)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02220.99	Site Demolition Allowance	sf	6.5	$4.32	$28
02310.01	Rough Grading	sf	6.5	$0.70	$5
02310.02	Finish Grading	sf	5.0	$0.86	$4
02315.01	Excavation w/haul	cy	0.1	$14.05	$2
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02770.02	Concrete Curb	lf	1.0	$12.97	$13
02775.01	Concrete Sidewalk	sy	0.6	$29.19	$16
	Mobilization Allowance	5.0%			$8
	General Condition Allowance	4.0%			$6
RM41	**Roadway Reconstruction Allow. - Curb & Sidewalk (One Side)**	**RF**	**Route Foot**		**$166**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Reconstruction Allow. - Curb & Sidewalk (Two Sides)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02220.99	Site Demolition Allowance	sf	13.0	$4.32	$56
02310.01	Rough Grading	sf	13.0	$0.70	$9
02310.02	Finish Grading	sf	10.0	$0.86	$9
02315.01	Excavation w/haul	cy	0.2	$14.05	$3
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02770.02	Concrete Curb	lf	2.0	$12.97	$26
02775.01	Concrete Sidewalk	sy	1.1	$29.19	$32
	Mobilization Allowance	5.0%			$11
	General Condition Allowance	4.0%			$9
RM42	**Roadway Reconstruction Allow. - Curb & Sidewalk (Two Sides)**	**RF**	**Route Foot**		**$240**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Reconstruction Allow. - Curb (One Side)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02220.99	Site Demolition Allowance	sf	1.5	$4.32	$6
02310.01	Rough Grading	sf	1.5	$0.70	$1
02310.02	Finish Grading	sf	5.0	$0.86	$4
02315.01	Excavation w/haul	cy	0.0	$14.05	$0
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02770.02	Concrete Curb	lf	1.0	$12.97	$13
	Mobilization Allowance	5.0%			$5
	General Condition Allowance	4.0%			$4
RM43	**Roadway Reconstruction Allow. - Curb (One Side)**	**RF**	**Route Foot**		**$119**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Reconstruction Allow. - Curb (Two Sides)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02220.99	Site Demolition Allowance	sf	3.0	$4.32	$13
02310.01	Rough Grading	sf	3.0	$0.70	$2
02310.02	Finish Grading	sf	10.0	$0.86	$9
02315.01	Excavation w/haul	cy	0.1	$14.05	$1
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02770.02	Concrete Curb	lf	2.0	$12.97	$26
	Mobilization Allowance	5.0%			$7
	General Condition Allowance	4.0%			$5
RM44	**Roadway Reconstruction Allow. - Curb (Two Sides)**	**RF**	**Route Foot**		**$147**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Reconstruction Allow. - Sidewalk (One Side)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02220.99	Site Demolition Allowance	sf	5.0	$4.32	$22
02310.01	Rough Grading	sf	5.0	$0.70	$4
02310.02	Finish Grading	sf	5.0	$0.86	$4
02315.01	Excavation w/haul	cy	0.1	$14.05	$1
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02775.01	Concrete Sidewalk	sy	0.6	$29.19	$16
	Mobilization Allowance	5.0%			$7
	General Condition Allowance	4.0%			$5
RM45	**Roadway Reconstruction Allow. - Sidewalk (One Side)**	**RF**	**Route Foot**		**$143**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Reconstruction Allow. - Sidewalk (Two Sides)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02220.99	Site Demolition Allowance	sf	10.0	$4.32	$43
02310.01	Rough Grading	sf	10.0	$0.70	$7
02310.02	Finish Grading	sf	10.0	$0.86	$9
02315.01	Excavation w/haul	cy	0.2	$14.05	$3
02370.01	Erosion Control Allowance	rf	1.0	$8.65	$9
02775.01	Concrete Sidewalk	sy	1.1	$29.19	$32
	Mobilization Allowance	5.0%			$9
	General Condition Allowance	4.0%			$7
RM46	**Roadway Reconstruction Allow. - Sidewalk (Two Sides)**	**RF**	**Route Foot**		**$194**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Reconstruction Allow. - Concrete Median with Planters

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER SQUARE FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	0.2	$75.67	$15
02220.99	Site Demolition Allowance	sf	5.0	$4.32	$22
02310.01	Rough Grading	sf	5.0	$0.70	$4
02310.02	Finish Grading	sf	5.0	$0.86	$4
02315.01	Excavation w/haul	cy	0.1	$14.05	$1
02370.01	Erosion Control Allowance	rf	0.2	$8.65	$2
02770.06	Concrete Median with Planter	sy	0.1	$97.29	$11
	Mobilization Allowance	5.0%			$3
	General Condition Allowance	4.0%			$2
RM47	**Roadway Reconstruction Allow. - Concrete Median with Planters**	**SF**	**Square Foot**		**$64**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - Bridge

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON CLEAR SPAN OF 140 ft. (Includes abutments)				
01560.01	Traffic Control Allowance, Level 1	rf	140.0	$75.67	$10,594
02230.01	Clearing & Grubbing Allowance, Level 1	sy	100.0	$0.70	$70
02250.01	Steel Sheet Pile	sf	880.0	$43.24	$38,051
02315.10	Structural Excavation	cy	85.0	$16.22	$1,378
02315.11	Structural Backfill	cy	30.0	$27.03	$811
02465.03	Drilled Shaft, 36" Dia.	vlf	1,320.0	$264.85	$349,595
02630.12	Trackway Drainage, Aerial	lf	140.0	$54.05	$7,567
03210.01	Reinforcing Steel	lb	52,204.0	$1.24	$64,897
03300.01	CIPC, Footings	cy	30.6	$356.73	$10,916
03300.03	CIPC, Walls	cy	48.9	$702.65	$34,360
03300.06	CIPC, Parapet	cy	31.1	$756.70	$23,533
03300.16	CIPC, Aerial Deck Slab	cy	120.6	$767.51	$92,562
03300.20	CIPC, Plinth	cy	29.8	$972.90	$29,012
03400.03	Precast Prestressed I Beams	lf	1,120.0	$145.94	$163,447
05520.01	Metal Pipe and Cable Railing	lf	280.0	$64.86	$18,161
05820.01	Elastomeric Bearing Pads	ea	16.0	$648.60	$10,378
16060.02	Corrosion Control, Aerial	lf	140.0	$2.70	$378
16130.22	Ductbank, Aerial Guideway	lf	140.0	$102.70	$14,377
	Mobilization Allowance	5.0%			$43,504
	General Condition Allowance	4.0%			$34,804
	TOTAL COST PER 4,340 SQUARE FEET				**$948,396**
RM50	**Roadway Modifications Allow. - Bridge**	**SF**	**Square Feet**		**$219**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - AC Paving

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER SQUARE FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	0.08	$75.67	$6.31
02230.01	Clearing & Grubbing Allowance, Level 1	sy	0.11	$0.70	$0.08
02310.01	Rough Grading	sf	1.00	$0.70	$0.70
02310.02	Finish Grading	sf	1.00	$0.86	$0.86
02315.01	Excavation w/haul	cy	0.07	$14.05	$0.94
02370.01	Erosion Control Allowance	rf	0.08	$8.65	$0.72
02630.01	Pavement Drainage, Allowance	lf	0.04	$81.08	$3.38
02730.01	Cement Stabilized Base	cy	0.04	$64.86	$2.40
02740.01	Asphalt Treated Base	tn	0.05	$70.27	$3.40
02740.05	Asphalt Concrete Pavement	tn	0.01	$86.48	$0.78
02766.01	Misc. Signing and Striping, Roadway Median	lf	0.08	$2.16	$0.18
	Mobilization Allowance	5.0%			$1
	General Condition Allowance	4.0%			$1
RM80	**Roadway Modifications Allow. - AC Paving**	**SF**	**Square Foot**		**$21.53**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - Conc. Paving

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER SQUARE FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	0.08	$151.34	$12.61
02230.01	Clearing & Grubbing Allowance, Level 1	sy	0.11	$0.70	$0.08
02310.01	Rough Grading	sf	1.00	$0.70	$0.70
02310.02	Finish Grading	sf	1.00	$0.86	$0.86
02315.01	Excavation w/haul	cy	0.06	$14.05	$0.83
02370.01	Erosion Control Allowance	rf	0.08	$8.65	$0.72
02630.01	Pavement Drainage, Allowance	lf	0.08	$81.08	$6.76
02720.02	Aggregate Base	cy	0.02	$32.43	$0.50
02730.01	Cement Stabilized Base	cy	0.02	$64.86	$1.20
02750.02	Concrete Pavement, > 8" Depth	cy	0.02	$259.44	$6.44
02766.01	Misc. Signing and Striping, Roadway Median	lf	0.08	$2.16	$0.18
	Mobilization Allowance	5.0%			$2
	General Condition Allowance	4.0%			$1
RM81	**Roadway Modifications Allow. - Conc. Paving**	**SF**	**Square Foot**		**$33.66**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - AC Paving (incl. Curb & Sidewalk)

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES BASED ON 1,000 SQUARE FOOT				
01560.02	Traffic Control Allowance, Level 2	rf	83.33	$151.34	$12,611.67
02230.01	Clearing & Grubbing Allowance, Level 1	sy	111.11	$0.70	$78.07
02310.01	Rough Grading	sf	1,000.00	$0.70	$702.65
02310.02	Finish Grading	sf	1,000.00	$0.86	$864.80
02315.01	Excavation w/haul	cy	74.07	$14.05	$1,040.96
02370.01	Erosion Control Allowance	rf	83.33	$8.65	$720.67
02630.01	Pavement Drainage, Allowance	lf	83.33	$81.08	$6,756.25
02730.01	Cement Stabilized Base	cy	37.04	$64.86	$2,402.22
02740.01	Asphalt Treated Base	tn	48.35	$70.27	$3,397.31
02740.05	Asphalt Concrete Pavement	tn	9.05	$86.48	$782.64
02766.01	Misc. Signing and Striping, Roadway Median	lf	83.33	$2.16	$180.17
02770.03	Concrete Curb and Gutter	lf	83.33	$18.38	$1,531.42
02775.01	Concrete Sidewalk	sy	37.04	$29.19	$1,081.00
	Mobilization Allowance	5.0%			$1,607
	General Condition Allowance	4.0%			$1,286
	TOTAL COST PER 1,000 SQUARE FOOT				**$35,043**
RM82	**Roadway Modifications Allow. - AC Paving (incl. Curb & Sidewal**	**SF**	**Square Foot**		**$35.04**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Roadway Modifications
Roadway Modifications Allow. - Mill and Resurface

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER SQUARE FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	0.03	$75.67	$2.10
02630.01	Pavement Drainage, Allowance	lf	0.03	$81.08	$2.25
02740.05	Asphalt Concrete Pavement	tn	0.01	$86.48	$1.04
02766.01	Misc. Signing and Striping, Roadway Median	lf	0.11	$2.16	$0.24
02960.01	Pavement Milling, Up to 3" Depth	sy	0.11	$4.32	$0.48
	Mobilization Allowance	5.0%			$0.31
	General Condition Allowance	4.0%			$0.24
RM83	**Roadway Modifications Allow. - Mill and Resurface**	**SF**	**Square Foot**		**$6.66**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Streetscaping
Streetscaping Allow. - Light

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	QUANTITIES BASED ON 30% STREETSCAPING PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	0.3	$75.67	$23
02220.07	Remove Concrete Sidewalk	sy	0.40	$12.97	$5
02780.05	Brick Pavers	sy	0.30	$151.34	$45
02810.01	Irrigation System Allowance, Level 1	rf	0.90	$34.59	$31
02900.01	Landscaping Allowance, Level 1	rf	0.90	$32.43	$29
12000.10	Site Furnishings, (Allowance)	ea	0.004	$3,243.00	$13
16500.06	Lighting, Roadway	lf	0.3	$32.43	$10
	Mobilization Allowance	5.0%			$8
	General Condition Allowance	4.0%			$6
SS01	**Streetscaping Allow. - Light**	**RF**	**Route Foot**		**$170**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Streetscaping
Streetscaping Allow. - Moderate

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	QUANTITIES BASED ON 65% STREETSCAPING PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	0.7	$75.67	$49
02220.07	Remove Concrete Sidewalk	sy	0.87	$12.97	$11
02780.05	Brick Pavers	sy	0.65	$151.34	$98
02810.01	Irrigation System Allowance, Level 1	rf	1.95	$34.59	$67
02900.01	Landscaping Allowance, Level 1	rf	1.95	$32.43	$63
12000.10	Site Furnishings, (Allowance)	ea	0.009	$3,243.00	$28
16500.06	Lighting, Roadway	lf	0.7	$32.43	$21
	Mobilization Allowance	5.0%			$17
	General Condition Allowance	4.0%			$14
SS02	**Streetscaping Allow. - Moderate**	**RF**	**Route Foot**		**$369**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Streetscaping
Streetscaping Allow. - Heavy

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	QUANTITIES BASED ON 100% STREETSCAPING PER ROUTE LINEAR FOOT				
01560.01	Traffic Control Allowance, Level 1	rf	1.0	$75.67	$76
02220.07	Remove Concrete Sidewalk	sy	1.33	$12.97	$17
02780.05	Brick Pavers	sy	1.00	$151.34	$151
02810.01	Irrigation System Allowance, Level 1	rf	3.00	$34.59	$104
02900.01	Landscaping Allowance, Level 1	rf	3.00	$32.43	$97
12000.10	Site Furnishings, (Allowance)	ea	0.013	$3,243.00	$43
16500.06	Lighting, Roadway	lf	1.0	$32.43	$32
	Mobilization Allowance	5.0%			$26
	General Condition Allowance	4.0%			$21
SS03	**Streetscaping Allow. - Heavy**	**RF**	**Route Foot**		**$568**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Streetscaping
Street Lighting Allow. - Standard

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
16500.10	Street Lighting, Cobra Head	lf	1.0	$37.84	$38
	Mobilization Allowance	5.0%			$2
	General Condition Allowance	4.0%			$2
SL01	**Street Lighting Allow. - Standard**	**RF**	**Route Foot**		**$41**

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Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Special Conditions-Streetscaping
Street Lighting Allow. - Enhanced

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
16500.11	Street Lighting, Joint Use Pole	lf	1.0	$81.08	$81
	Mobilization Allowance	5.0%			$4
	General Condition Allowance	4.0%			$3
SL02	**Street Lighting Allow. - Enhanced**	**RF**	**Route Foot**		**$88**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
System Elements:
Train Control - Single Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
16700.01	Signal System - Single Track	lf	1.0	$237.82	$238
	Mobilization Allowance	5.0%			$12
	General Condition Allowance	4.0%			$10
TC01	**Train Control - Single Track**	**RF**	**Route Foot**		**$259**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
System Elements:
Train Control - Double Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
16700.02	Signal System - Double Track	lf	1.0	$297.28	$297
	Mobilization Allowance	5.0%			$15
	General Condition Allowance	4.0%			$12
TC02	**Train Control - Double Track**	**RF**	**Route Foot**		**$324**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
System Elements:
Train Control - Signal Prioritization

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES ARE BASED ON 1 SIGNAL EVERY 750 FT.				
16700.19	Signal Prioritization	ea	0.001	$64,860.00	$86
	Mobilization Allowance	5.0%			$4
	General Condition Allowance	4.0%			$3
TC03	**Train Control - Signal Prioritization**	**RF**	**Route Foot**		**$94**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
System Elements:
Train Control, Line - Yard

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
16700.03	Signal System - Yard	lf	1.0	$156.75	$157
	Mobilization Allowance	5.0%			$8
	General Condition Allowance	4.0%			$6
TC05	**Train Control, Line - Yard**	**RF**	**Route Foot**		**$171**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
System Elements:
Train Control, Double Crossover

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
16700.05	Signal System, Single Crossover	ea	1.0	$196,742.00	$196,742
	Mobilization Allowance	5.0%			$9,837
	General Condition Allowance	4.0%			$7,870
TC15	**Train Control, Double Crossover**	**EA**	**Each**		**$214,449**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
System Elements:
Train Control, Single Crossover

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
16700.06	Signal System, Turnout	ea	1.0	$183,770.00	$183,770
	Mobilization Allowance	5.0%			$9,189
	General Condition Allowance	4.0%			$7,351
TC20	**Train Control, Single Crossover**	**EA**	**Each**		**$200,309**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
System Elements:
Train Control, Turnout

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
16700.04	Signal System, Double Crossover	ea	1.0	$221,605.00	$221,605
	Mobilization Allowance	5.0%			$11,080
	General Condition Allowance	4.0%			$8,864
TC25	**Train Control, Turnout**	**EA**	**Each**		**$241,549**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
System Elements:
OCS System Standard, Single Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES ARE BASED ON 5,280 FT SEGMENT				
16370.04	Traction Power, Trunkline	lf	1,320.0	$54.05	$71,346
16370.05	Traction Power, Branchline	lf	528.0	$43.24	$22,831
16370.06	Traction Power, (OCS), At Grade Sngl Track	lf	5,280.0	$216.20	$1,141,536
	Mobilization Allowance	5.0%			$61,786
	General Condition Allowance	4.0%			$49,429
	TOTAL COST PER 5,280 FT				**$1,346,927**
TP01	**OCS System Standard, Single Track**	**RF**	**Route Linear Foot**		**$255**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
System Elements:
OCS System - Standard, Double Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES ARE BASED ON 5,280 FT SEGMENT				
16370.04	Traction Power, Trunkline	lf	1,320.0	$54.05	$71,346
16370.05	Traction Power, Branchline	lf	528.0	$43.24	$22,831
16370.07	Traction Power, (OCS), At Grade Dbl Track	lf	5,280.0	$259.44	$1,369,843
	Mobilization Allowance	5.0%			$73,201
	General Condition Allowance	4.0%			$58,561
	TOTAL COST PER 5,280 FT				**$1,595,782**
TP02	**OCS System - Standard, Double Track**	**RF**	**Route Linear Foot**		**$302**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
System Elements:
Traction Power, Substation

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
13000.20	Traction Power Structure, Substation	ea	1.0	$378,350.00	$378,350
16370.01	Traction Power Equipment, Substation	ea	1.0	$864,800.00	$864,800
	Mobilization Allowance	5.0%			$62,158
	General Condition Allowance	4.0%			$49,726
TP03	**Traction Power, Substation**	**EA**	**Each**		**$1,355,034**

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
System Elements:
OCS System Streetcar, Single Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES ARE BASED ON 5,280 FT SEGMENT				
16370.04	Traction Power, Trunkline	lf	1,056.0	$54.05	$57,077
16370.05	Traction Power, Branchline	lf	264.0	$43.24	$11,415
16370.20	Traction Power, (OCS), Streetcar Sngl Track	lf	5,280.0	$172.96	$913,229
	Mobilization Allowance	5.0%			$49,086
	General Condition Allowance	4.0%			$39,269
	TOTAL COST PER 5,280 FT				**$1,070,076**
TP05	**OCS System Streetcar, Single Track**	**RF**	**Route Linear Foot**		**$203**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
OCS System - Streetcar, Double Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES ARE BASED ON 5,280 FT SEGMENT				
16370.04	Traction Power, Trunkline	lf	1,056.0	$54.05	$57,077
16370.05	Traction Power, Branchline	lf	264.0	$43.24	$11,415
16370.21	Traction Power, (OCS), Streetcar Dbl Track	lf	5,280.0	$199.99	$1,055,921
	Mobilization Allowance	5.0%			$56,221
	General Condition Allowance	4.0%			$44,977
TOTAL COST PER 5,280 FT					**$1,225,610**
TP06	**OCS System - Streetcar, Double Track**	**RF**	**Route Linear Foot**		**$232**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
Traction Power, Substation - Streetcar

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
16370.02	Traction Power Equipment, Streetcar Substation	ea	1.0	$756,700.00	$756,700
	Mobilization Allowance	5.0%			$37,835
	General Condition Allowance	4.0%			$30,268
TP08	**Traction Power, Substation - Streetcar**	**EA**	**Each**		**$824,803**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
OCS System - Convert 750V to 1500V, Single Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
16370.15	Traction Power, (OCS), Upgrade 750V to 1500V	lf	1.0	$33.51	$34
	Mobilization Allowance	5.0%			$2
	General Condition Allowance	4.0%			$1
TP10	**OCS System - Convert 750V to 1500V, Single Track**	**RF**	**Route Foot**		**$37**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
OCS System - Convert 750V to 1500V, Double Track

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
16370.15	Traction Power, (OCS), Upgrade 750V to 1500V	lf	2.0	$33.51	$67
	Mobilization Allowance	5.0%			$3
	General Condition Allowance	4.0%			$3
TP11	**OCS System - Convert 750V to 1500V, Double Track**	**RF**	**Route Foot**		**$73**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
Traction Power, Remove Substation

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
16370.03	Traction Power Equipment, Remove Substation	ea	1.0	$97,290.00	$97,290
	Mobilization Allowance	5.0%			$4,865
	General Condition Allowance	4.0%			$3,892
TP15	**Traction Power, Remove Substation**	**EA**	**Each**		**$106,046**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
OCS System - Relocate Existing Trolley Bus OCS

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
16370.30	Traction Power, (OCS), Relocate Existing	lf	1.0	$140.53	$141
	Mobilization Allowance	5.0%			$7
	General Condition Allowance	4.0%			$6
TP20	**OCS System - Relocate Existing Trolley Bus OCS**	**RF**	**Route Foot**		**$153**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
Communication, Line - Single

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
16700.07	Communication System, Single Track	lf	1.0	$54.05	$54
	Mobilization Allowance	5.0%			$3
	General Condition Allowance	4.0%			$2
CM01	**Communication, Line - Single**	**RF**	**Route Foot**		**$59**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
Communication, Line - Double

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER ROUTE LINEAR FOOT				
16700.08	Communication System, Double Track	lf	1.0	$70.27	$70
	Mobilization Allowance	5.0%			$4
	General Condition Allowance	4.0%			$3
CM02	**Communication, Line - Double**	**RF**	**Route Foot**		**$77**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
Communication, Station-1 Platform

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
16700.09	Communication System, Station	ea	0.7	$270,250.00	$189,175
	Mobilization Allowance	5.0%			$9,459
	General Condition Allowance	4.0%			$7,567
CM04	**Communication, Station-1 Platform**	**EA**	**Each**		**$206,201**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
Communication, Station-2 Platform

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
16700.09	Communication System, Station	ea	1.0	$270,250.00	$270,250
	Mobilization Allowance	5.0%			$13,513
	General Condition Allowance	4.0%			$10,810
CM05	**Communication, Station-2 Platform**	**EA**	**Each**		**$294,573**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
Communication, Passenger Information

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
16700.18	Communication System, Passenger Information	ea	1.00	$54,050.00	$54,050
	Mobilization Allowance	5.0%			$2,703
	General Condition Allowance	4.0%			$2,162
CM10	**Communication, Passenger Information**	**EA**	**Each**		**$58,915**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
Fare Collection - 1 Platform

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
11155.10	Fare Collection, Ticket Vending Machine	ea	2.0	$70,265.00	$140,530
11155.11	Fare Collection, Validating Machine	ea	3.0	$6,486.00	$19,458
11155.20	Fare Collection, Installation & Testing	ea	5.0	$12,972.00	$64,860
	Mobilization Allowance	5.0%			$11,242
	General Condition Allowance	4.0%			$8,994
FC01	**Fare Collection - 1 Platform**	**EA**	**Each**		**$245,084**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
Fare Collection - 2 Platform

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
11155.10	Fare Collection, Ticket Vending Machine	ea	4.0	$70,265.00	$281,060
11155.11	Fare Collection, Validating Machine	ea	4.0	$6,486.00	$25,944
11155.20	Fare Collection, Installation & Testing	ea	8.0	$12,972.00	$103,776
	Mobilization Allowance	5.0%			$20,539
	General Condition Allowance	4.0%			$16,431
FC02	**Fare Collection - 2 Platform**	**EA**	**Each**		**$447,750**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
Operations Center

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
13000.02	Operations Building	sf	6,000.0	$183.77	$1,102,620
16700.10	Communication, Central Control Allowance	ls	1.0	$3,243,000.00	$3,243,000
	Mobilization Allowance	5.0%			$217,281
	General Condition Allowance	4.0%			$173,825
OC01	**Operations Center**	**EA**	**Each**		**$4,736,726**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
System Elements:
Operations Center, Equipment Only

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER STATION				
16700.10	Communication, Central Control Allowance	ls	1.0	$3,243,000.00	$3,243,000
	Mobilization Allowance	5.0%			$162,150
	General Condition Allowance	4.0%			$129,720
OC05	**Operations Center, Equipment Only**	**EA**	**Each**		**$3,534,870**

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Vehicles:
LRT Vehicle

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
17100.02	Articulated LRV - Low Floor	ea	1.0	$3,684,600.00	$3,684,600
VH01	**LRT Vehicle**	**EA**	**Each**		**$3,684,600**

Vehicle

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Vehicles:
Modern Streetcar Vehicle

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
17100.15	Streetcar Vehicles (Skoda)	ea	1.0	$2,865,800.00	$2,865,800
VH02	**Modern Streetcar Vehicle**	**EA**	**Each**		**$2,865,800**

Vehicle

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Vehicles:
Bus - Standard

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
17100.05	Standard 40 ft. Bus	ea	1.0	$416,000.00	$416,000
VH04	**Bus - Standard**	**EA**	**Each**		**$416,000**

Vehicle

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Vehicles:
Bus - Articulated

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	ALL QUANTITIES PER EACH				
17100.06	Articulated 60 ft. Bus	ea	1.0	$676,000.00	$676,000
VH05	**Bus - Articulated**	**EA**	**Each**		**$676,000**

Vehicle

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Bethesda Metro South Entrance
Metro Station South Entrance-LRT Level

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
02410.01	Station Excavation & Support, Mined	cy	1,670.0	$432.40	$722,108
02410.45	Tunnel Construction Instrumentation	lf	1,000.0	$70.27	$70,265
02410.50	Temporary Air, Water, Ventilation	lf	1,000.0	$27.03	$27,025
02315.01	Excavation w/haul	cy	1,670.0	$14.05	$23,469
02620.02	Underdrains	lf	100.0	$8.65	$865
02620.10	Composite Drainage Board	sf	7,500.0	$2.16	$16,215
03210.01	Reinforcing Steel	lb	116,666.7	$1.24	$145,034
03300.02	CIPC, Slab on Grade	cy	222.2	$389.16	$86,480
03300.03	CIPC, Walls	cy	83.3	$702.65	$58,554
03300.07	CIPC, Elevated Slab	cy	277.8	$767.51	$213,197
07130.21	Sheet Waterproofing	sf	7,500.0	$6.49	$48,645
09000.01	Architectural Finish, Station	sf	3,000.0	$43.24	$129,720
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
11155.10	Fare Collection, Ticket Vending Machine	ea	2.0	$70,265.00	$140,530
11155.11	Fare Collection, Validating Machine	ea	3.0	$6,486.00	$19,458
11155.20	Fare Collection, Installation & Testing	ea	5.0	$12,972.00	$64,860
15800.02	Station Mechanical & HVAC (Allowance)	sf	3,000.0	$29.19	$87,561
16000.01	Station Electrical (Allowance)	sf	3,000.0	$27.03	$81,075
16500.05	Lighting, Stations (Allowance)	sf	3,000.0	$6.49	$19,458
	Allowance for Underpinning of Apex Building	ls	1.0	$1,000,000.00	$1,000,000
	Mobilization Allowance	5.0%			$151,050
	General Condition Allowance	4.0%			$120,840
	Difficult Construction Allowance	30.0%			$951,615
SE01	**Metro Station South Entrance-LRT Level**	**LS**	**Lump Sum**		**$4,244,506**

Special

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Bethesda Metro South Entrance
Metro Station South Entrance-Mezzanine Level

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	Elevator Lobby & Pedestrian Connection				
02410.01	Station Excavation & Support, Mined	cy	4,340.0	$432.40	$1,876,616
02410.45	Tunnel Construction Instrumentation	lf	1,000.0	$70.27	$70,265
02410.50	Temporary Air, Water, Ventilation	lf	1,000.0	$27.03	$27,025
02315.01	Excavation w/haul	cy	4,340.0	$14.05	$60,990
02620.02	Underdrains	lf	500.0	$8.65	$4,324
02620.10	Composite Drainage Board	sf	23,500.0	$2.16	$50,807
03210.01	Reinforcing Steel	lb	347,500.0	$1.24	$431,995
03300.02	CIPC, Slab on Grade	cy	577.8	$389.16	$224,848
03300.03	CIPC, Walls	cy	437.5	$702.65	$307,409
03300.07	CIPC, Elevated Slab	cy	722.2	$767.51	$554,313
07130.21	Sheet Waterproofing	sf	23,500.0	$6.49	$152,421
09000.01	Architectural Finish, Station	sf	7,800.0	$43.24	$337,272
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
11155.10	Fare Collection, Ticket Vending Machine	ea	2.0	$70,265.00	$140,530
11155.11	Fare Collection, Validating Machine	ea	3.0	$6,486.00	$19,458
11155.20	Fare Collection, Installation & Testing	ea	5.0	$12,972.00	$64,860
15800.02	Station Mechanical & HVAC (Allowance)	sf	7,800.0	$29.19	$227,659
16000.01	Station Electrical (Allowance)	sf	7,800.0	$27.03	$210,795
16500.05	Lighting, Stations (Allowance)	sf	7,800.0	$6.49	$50,591
	Subtotal Elevator Lobby @ Mezz. Level (Carried forward to next page)				$4,878,659

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Bethesda Metro South Entrance
Metro Station South Entrance-Mezzanine Level

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
	Metro Station Mezzanine				
	Subtotal Elevator Lobby @ Mezz. Level (Carried forward from previous page)				$4,878,659
	Demolish Knock-out Panel	sf	500.0	$50.00	$25,000
03210.01	Reinforcing Steel	lb	51,382.7	$1.24	$63,876
03300.04	CIPC, Columns	cy	10.0	$886.42	$8,864
03300.07	CIPC, Elevated Slab	cy	246.9	$767.51	$189,509
09000.01	Architectural Finish, Station	sf	8,000.0	$43.24	$345,920
10100.01	Signage, Station Allowance	sta	1.0	$66,481.50	$66,482
14600.01	Escalators, to 25 ft. Rise	ea	2.0	$210,795.00	$421,590
14600.10	Elevators, 25 ft. Rise	ea	1.0	$145,935.00	$145,935
15800.02	Station Mechanical & HVAC (Allowance)	sf	8,000.0	$29.19	$233,496
16000.01	Station Electrical (Allowance)	sf	8,000.0	$27.03	$216,200
16500.05	Lighting, Stations (Allowance)	sf	8,000.0	$6.49	$51,888
	Subtotal Metro Station Mezzanine				$1,768,760
	Mobilization Allowance	5.0%			$332,371
	General Condition Allowance	4.0%			$265,897
	Difficult Construction Allowance	40.0%			$2,658,967
SE02	**Metro Station South Entrance-Mezzanine Level**	**LS**	**Lump Sum**		**$9,904,654**

Special

Purple Line Corridor Transit Study
AA / Draft EIS
COMPOSITE SECTION COST
Bethesda Metro South Entrance
Metro Station South Entrance-Street Level

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
01560.03	Traffic Control Allowance, Level 3	rf	300.00	$216.20	$64,860
02220.99	Site Demolition Allowance	sf	9,000.0	$4.32	$38,916
02225.01	Pedestrian Access for Stations	sf	2,500.0	$32.43	$81,075
02310.01	Rough Grading	sf	9,000.00	$0.70	$6,324
02310.02	Finish Grading	sf	9,000.00	$0.86	$7,783
02315.01	Excavation w/haul	cy	500.00	$14.05	$7,027
02370.01	Erosion Control Allowance	rf	300.00	$8.65	$2,594
02500.03	Utility Modifications Allowance, Level 3	lf	300.00	$670.22	$201,066
02630.01	Pavement Drainage, Allowance	lf	300.00	$81.08	$24,323
02730.01	Cement Stabilized Base	cy	333.33	$64.86	$21,620
02740.01	Asphalt Treated Base	tn	174.06	$70.27	$12,230
02740.05	Asphalt Concrete Pavement	tn	32.58	$86.48	$2,818
02766.01	Misc. Signing and Striping, Roadway Median	lf	600.00	$2.16	$1,297
02770.03	Concrete Curb and Gutter	lf	300.00	$18.38	$5,513
02810.01	Irrigation System Allowance, Level 1	rf	300.00	$34.59	$10,378
02830.05	CIPC, Retaining Wall, Complete	sf	12,000.00	$49.19	$590,226
02900.01	Landscaping Allowance, Level 1	rf	300.00	$32.43	$9,729
13000.10	Pedestrian Access Structure	sf	600.00	$151.34	$90,804
	Mobilization Allowance	5.0%			$58,929
	General Condition Allowance	4.0%			$47,143
	Difficult Construction Allowance	30.0%			$371,253
SE03	**Metro Station South Entrance-Street Level**	**LS**	**Lump Sum**		**$1,655,908**

Special

Purple Line Corridor Transit Study
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COMPOSITE SECTION COST
Bethesda Metro South Entrance
Metro Station South Entrance-Vertical Circulation

CODE	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST $	TOTAL COST $
02410.03	Shaft Excavation & Support, Rock	cy	3,280.0	$189.18	$620,494
02410.45	Tunnel Construction Instrumentation	lf	123.0	$70.27	$8,643
02410.50	Temporary Air, Water, Ventilation	lf	123.0	$27.03	$3,324
03210.01	Reinforcing Steel	lb	196,800.0	$1.24	$244,652
03300.99	CIPC, Miscellaneous Structures	cy	984.0	$940.47	$925,422
05120.05	Structural Steel, Misc.	lb	18,450.0	$4.32	$79,778
07130.21	Sheet Waterproofing	sf	17,712.0	$6.49	$114,880
14600.15	Elevators, 120 ft. Rise (High Speed)	ea	5.0	$1,059,380	$5,296,900
14600.21	Stairs Complete, Wide	vf	123.0	$1,470.16	$180,830
15300.01	Fire Protection Piping, Tunnel	lf	123.0	$237.82	$29,252
16500.04	Lighting, Underground Guideway	lf	123.0	$147.02	$18,083
	Mobilization Allowance	5.0%			$376,113
	General Condition Allowance	4.0%			$300,890
	Difficult Construction Allowance	30.0%			$2,369,511
SE04	**Metro Station South Entrance-Vertical Circulation**	**LS**	**Lump Sum**		**$10,568,772**

Special