UNIVERSITY DRIVE

MOBILITY IMPROVEMENTS PLANNING STUDY

Final Capital Cost Methodology Memorandum

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Prepared for:

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The following Capital Cost Methodology serves to describe the techniques that will be used to determine the costs associated with eight different alternatives for the University Drive Corridor. The alternatives are named after colors: Orange, Yellow, Green, Blue, Red, Indigo, Magenta and Violet. Orange is the base option for pedestrian improvements including sidewalks with a buffer, curb ramps at all intersections, high emphasis crosswalks at all signals, and pedestrian signals with adequate walk time and refuge islands. All of the improvements in this base option are proposed to be done within the existing right of way limits of the roadway. As the options expand in scope, they begin to include bicycle facilities, and transit strategies ranging from signal priority technology to widening for brand new Bus Rapid Transit (BRT) lanes in exclusive right-of-way.

Each alternative is intended to serve a forecast year of 2020, which can be served with local bus, enhanced bus and/or BRT service. The alternatives will not preclude the evaluation or implementation of streetcar or other premium transit modes in the future beyond year 2020. In order to compare the alternatives, a cost estimate methodology similar to the Florida Department of Transportation's (FDOT) Long-Range Estimating (LRE) procedures will be adopted.

All quantities for the scoped items within each proposed condition have been determined using aerial imagery and information gathered during planning phase field visits. Key roadway items estimated are: clearing & grubbing (inclusive of all pavement removal and demolition), earthwork, stabilization, base materials, asphalt, friction course, curb and gutter, traffic separator, sidewalk, driveway, sod, and drainage improvements. Project parameters, such as total project length, length of sidewalk, and average depth of earthwork being performed are determined by the scope details for each alternative. The estimate will further differentiate between the type of work being performed (milling and resurfacing, widening) as well as where on the road it will be performed (roadway, outside shoulder, median). Using these parameters, the previously mentioned items are quantified and unit prices from the FDOT Historical Cost database are then applied.

The selected FDOT Historical Cost database provides the unit prices of pay items, based upon the FDOT Basis of Estimates (BOE) Manual, from bid tabulations across the state from the most recently collected span of 12 months. It is proposed to use this database as it provides the largest, most recent, most accurate bank of information and contains all of the pay items needed to estimate each alternative. The unit costs were estimated using the 12 month

statewide average construction costs from February 1, 2013 to January 31, 2014 and can be updated along with the tool.

Some construction components could not be estimated specifically at the planning phase and will therefore be estimated on the basis of linear feet of total work. Those quantities include: drainage, erosion and sediment control, and signing and pavement markings. Each of these aspects of construction will be assigned a unit cost based on past estimating experience on FDOT projects and will be adjusted based on the scope of work.

Other costs for alternative features include: bus shelters, new buses, signalization improvements for pedestrians, signal retiming, and full signal reconstruction. Bus shelters will be estimated as a single all inclusive cost per stop/station type, including a new pad and a decorative shelter. Three types of bus stops are estimated: standard shelters, enhanced bus stops, and BRT bus stops. In the alternatives where new buses are required, two different options were estimated: a standard bus and a BRT style vehicle. The signalization items will be estimated on a per intersection basis and their costs will be representative of previous projects and similar to the assemblies from the FDOT Historical Cost database. Maintenance of Traffic (MOT) and mobilization will be applied as a percentage factor to the roadway and miscellaneous items. The percentage applied is based on the scope of work between 10-15%. Options with additional MOT phases will have a higher percentage applied for MOT costs.

Each option will also contain a 20% contingency as well as 20% for design services consistent with estimates in the planning phase. Estimates will not include costs associated with potential effects such as right-of-way acquisition, landscaping (aside from sod), lighting, utility relocations and wetland mitigation. Right-of-way costs are not able to be quantified without detailed survey and a title search on the corridor. Utility relocations are site specific and the cost of their relocation is often borne by the utility owner based on existing franchise agreements in the area, or the agreements may detail eligibility for reimbursements by FDOT. Additionally, bridge modifications/replacements are only considered to accommodate the additional widening in the Violet alternative.