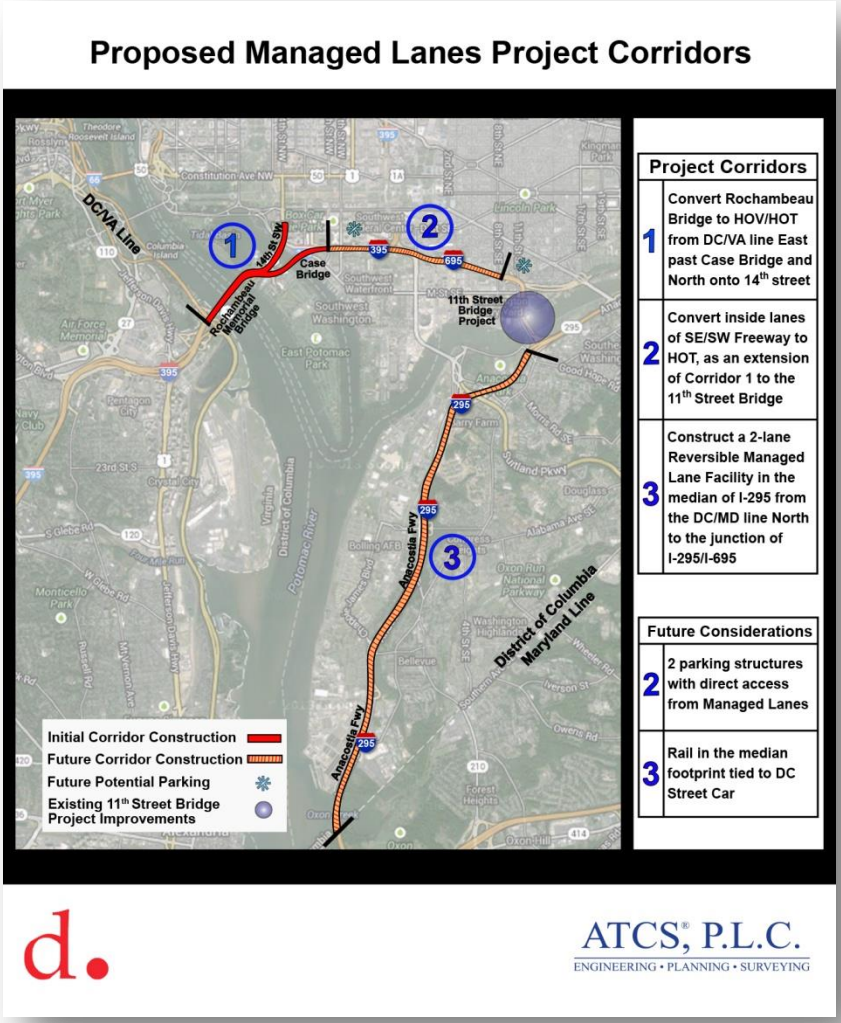
Managed Lanes Corridor Project Feasibility Study

Washington, D.C.

Final Feasibility Report



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December 2013

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INTRODUCTION

The goal of the managed lanes corridor feasibility study is to determine if the concept of establishing a network of High Occupancy Toll (HOT) lanes within the District of Columbia (District) to manage the growing congestion, promote multi-modal transportation, and encourage carpooling and High Occupancy Vehicle travel can be an effective and efficient tool. In addition to the corridor feasibility, the study looked at the viability of developing and delivering the project as a Public-Private Partnership (P3). In order to perform this study, we analyzed corridors into and within the District to identify the corridor that would provide the best match for a managed lane facility and also address the need to manage congestion. A general corridor alignment was identified that encompasses a route throughout the south side of the District, starting at the District of Columbia/Virginia border traveling north on one of the 14th Street Bridges across the Potomac River, continuing east along I-395 and I-695, and then traveling south along I-295 to the District of Columbia/Maryland border.

Our study was divided into two phases. Phase 1 was a high-level review to identify the potential corridor, potential fatal flaws for developing a managed lanes facility, and the major obstacles to deliver the project as a P3. Phase 2 continues the efforts from Phase 1 but focuses more on the technical analysis, the verification of assumptions from Phase 1, the development of traffic and revenue and financial analysis, and the development of the regulatory requirements to deliver the project.

For purposes of this study, we defined project feasibility as meeting the technical, financial, legislative and legal criteria established in order to move the project to development and environmental review and approval.

BACKGROUND

According to the Texas Transportation Institute, the Washington, DC region ranked first in the nation in delay per peak auto driver, second in the cost per peak auto commuter and fourth in the total cost of congestion in 2011. Robust growth in both employment and population is forecast, notably Joint Base at Bolling and the redevelopment of the St. Elizabeth campus in Anacostia, which will eventually host 20,000 federal workers and 5,000 private sector employees. To manage congestion in the District, the District Department of Transportation (DDOT) has been aggressively pursuing policies, programs and projects to increase the capacity of its multi-modal transportation

system to more efficiently move people, to reduce non-HOV travel during the peak periods and increase trips by transit and HOV modes.

In order to more effectively manage congestion, DDOT initiated a project to study the feasibility of implementing a network of managed lanes facilities in the District. This feasibility study involves the investigation of different corridors for an initial managed lane facility that would operate within a multi-modal transportation system. The concept of a managed lanes facility brings the District in line with the efforts of Virginia, with the opening of the I-495 Express Lanes project and the development and construction of the I-95/I-395 Express Lanes project, and Maryland, with the operation of the InterCounty Connector.

In addition, this study is analyzing the benefits of adding parking structures with direct access from the managed lanes facilities for tour buses, commuter buses, and personal vehicles; as well as the possibility of including the District's current efforts with their Streetcar Project within the facility footprint.

PURPOSE AND NEED

The District of Columbia needs to develop strategies to address the growing vehicular congestion within the District while working within the limited capacity to construct new roadways. The purpose of this study is to analyze the feasibility of developing and implementing a managed lanes facility concept as a means to manage vehicular congestion and encourage multi-occupancy vehicle travel and reduce single-occupancy vehicle travel. Further, this study will also analyze the feasibility of a Public-Private Partnership as a viable delivery method for a managed lanes project.

CORRIDOR CHARACTERISTICS

The corridor alignment that was identified as potentially viable navigates a southern route through the District. The corridor does not currently have a High Occupancy Vehicle (HOV) designation. The corridor generally carries traffic that is entering into and leaving the District with limited local travel use. The corridor has limited right of way capacity to accommodate expansion needs without significant impact to real property. The corridor has definable destination points that could support the need for a predictable travel time which is a goal of a managed lanes facility.

The managed lanes corridor will use an all electronic high-speed tolling system. Tolls for the managed lanes will be dynamic, meaning they will change periodically based on real-time traffic conditions to keep the lanes free flowing. A network of electronic signs will display current toll prices to the traveling public prior to the entrance to the managed

lanes. The managed lanes will allow commuter buses, carpools (HOV-3+), motorcycles and emergency vehicles to use the lanes without paying the toll. The purpose of this is to manage commuter behavior and in doing so manage long term congestion.

FEASIBILITY ANALYSIS

This section of the report describes the scope of work, analysis methodology, and results and recommendations for each phase of the feasibility analysis. The work products produced, with the detailed findings and recommendations can be found in the Exhibits.

PHASE 1

Scope and Goals

The Phase 1 study focused on an initial, high-level feasibility to identify potential fatal flaws or major obstacles to developing a managed lanes facility project as a P3 project and to lay out the schedule critical path to move the project forward. The study had four (4) main focus areas:

- Legal/Legislative framework of pursuing a P3 project
- Technical elements of the proposed project
- Commercial/Financial aspects of the proposed project
- Public Policy issues with a P3 project

The Phase 1 project team was comprised of ATCS, PLC, as the team lead, and KPMG Infrastructure Advisory Group, who conducted the study with a focus on addressing a series of questions that would assist DDOT in determining the viability of a P3 managed lanes project. The questions were subdivided to align with the study's four focus areas:

<u>Legal/Legislative</u>

- Working with the District Office of Attorney General (OAG), what is the legal and legislative framework under which DDOT could procure and implement the project as a P3 with a long-term concession?
- If legislative changes are needed to implement the project as a P3, how would those changes be obtained?
- What governmental and regulatory approvals would be required to implement the project as a P3?

Technical

- What improvements are needed to meet the basic objectives for the project and provide the necessary interfaces and connections with existing infrastructure?
- Does the base concept present any fatal technical flaws, i.e., insufficient right-of-way, major environmental hazards, operational problems, significant infrastructure upgrades?
- How should the project be phased and otherwise coordinated with the proposed St. Elizabeth's development, Joint Base effort, and other development projects the along the corridor?

Commercial/Financial

- Can the project generate sufficient revenue to attract private investment?
- Are there other potential dedicated revenue sources that will assist in leveraging private sector funding for the project?
- Will the project pay for itself?
- Will there be excess funds to assist in supporting additional infrastructure?
- How much direct control of the project can DDOT allocate to a private partner?
- How would/should this project interface with VDOT's I-95/395 HOT lanes project?
- What commercial activities (parking, etc) associated with the project, if any, could be included in the project scope in order to boost commercial appeal to a private partner?

Public Policy

- Does the project need to generate a certain amount of funding that can be used for other purposes, and what are the appropriate uses of any such proceeds?
- Can managed lanes be extended into the District?
- Who are the stakeholders and what are their requirements to enable the project?

The project team was guided by several assumptions in performing the study. The most notable assumptions were:

- The legal/legislative assessment would be conducted by the DC OAG with support from the project team
- No new traffic models would be developed and the analysis would only focus on existing traffic data
- The project would be conceptual and would not include any engineering design

Analysis

The Phase 1 study was initiated in the spring of 2011 and was performed over a 9-month period. The project team started with a set of meetings and workshops with DDOT to discuss and lay out the fundamentals of a P3 project and the potential funding and financing option and scenarios available; and to identify potential project corridors. From those workshops, two potential tolling scenarios and corridors were identified for further analysis:

- Flat Toll for all in-bound vehicles across the 14th Street Bridge
- Managed lanes network for the corridor comprised of the Rochambeau Bridge, SW/SE Freeway (1-695/I-395), 11th Street Bridge, and I-295

With these two potential corridors, the project team focused on analyzing the existing conditions including, current and 20 year traffic projections, alignments, and access points. Rough Order of Magnitude (ROM) cost estimates and life-cycle costs for capital improvements and operations were developed to support the development of high level cash flow models.

Concurrent with the analysis of the technical feasibility and commercial and financial feasibility, the project team worked with DDOT management and the DC OAG to develop the legal and legislative framework for a P3 project. This included the development of a draft tolling policy, assistance with the development and review of legislation to allow for tolling and P3 delivery, and identifying federal authorization required to develop and implement a managed lanes project.

Throughout the study period, the Project Team met regularly with DDOT management to provide progress updates and to refine the conceptual tolling scenarios and corridor alignments.

Results/Recommendations

At the conclusion of the Phase 1 study, the project team identified a preferred corridor and tolling scenario that appeared to have merit and could be a viable and feasible candidate for a managed lanes P3 project. The preferred tolling scenario to move forward is a managed lanes concept with dynamic electronic tolling. The preferred corridor alignment is:

- Rochambeau Bridge
- SW/SE Freeway (I-395/I-695)
- I-295

While the study result noted that the preferred alignment appeared feasible, the project team identified several assumptions that needed to be further analyzed and verified to finalize the feasibility and move the potential project to development.

The project team recommended to DDOT that the feasibility study continue to Phase 2 to further develop and review the managed lanes network, perform a detailed analysis of the potential managed lanes scenario, and verify and modify the key assumptions and critical gaps identified as part of the Phase 1 study, as well as develop a P3 program for the District to use to deliver the managed lanes project and other future transportation projects.

PHASE 2

Scope and Goals

The Phase 2 study is an extension of the high-level study performed during Phase 1 and provided for a more in-depth and comprehensive analysis and verification of the assumptions and critical gaps for the potential traffic and cash flow. Phase 2 also provided a more detailed study of the technical elements and the viability of delivering the project as a P3 concession. Phase 2 was initiated in the fall of 2012 and was performed over a 14-month period.

The Phase 2 project team was expanded to include specialty sub-consultants. DESMAN Associates was added to perform a parking demand analysis, and CDM Smith was added to perform the sketch level Traffic and Revenue (T&R) analysis.

The Phase 2 study scope was divided into Technical Analysis and P3 Analysis and Support and included:

- Obtaining Tolling Authority from Federal Highway Administration (FHWA)
- Determining the project termini and methodology for construction
- Coordinating with agencies to identify and obtain regulatory approvals
- Developing project technical elements and concept designs
- Performing a “sketch level” Traffic and Revenue Analysis
- Performing a parking demand and revenue analysis
- Developing cost estimates
- Developing a development schedule
- Developing and implementing outreach and key stakeholder coordination
- Providing P3 advisory support
- Developing financial analysis/models

The goal for the Phase 2 study was to be able to expand the determination of feasibility of the project and if the project is a viable project for a P3 delivery; to position the District to be able to pursue P3 as a delivery option; and to establish the baseline for the development and procurement of the project.

Analysis

The Phase 2 study began with several concurrent activities. The parking demand and traffic and revenue analyses were initiated; the technical group began to look at the feasibility of alignment options within each corridor and to develop a recommended alignment; and the P3 advisory group began investigating the regulatory requirements as well as tolling strategies.

The parking demand study's focus was to look at the feasibility of providing parking for both personal vehicles and for motor coach vehicles. The project team analyzed the corridor, the availability of parking, the existing parking rate structure, the location and type of structure, and the potential revenue from a parking structure.

The Phase 1 study did not include a T&R analysis, but instead only used existing traffic data from previous studies. The T&R for the Phase 2 study was a sketch level analysis of the potential traffic and revenue that could be generated by the project. Each corridor was evaluated under its own merits as a project and the revenue that could be generated within each corridor. The sketch level T&R provided a baseline for the development of the financial model for each corridor.

The technical group reviewed the merits of each corridor alignment option including the feasibility of access points, impacts to right of way, capacity issues, and overall cost impacts. From this a preferred option was selected for each corridor.

The P3 advisory group worked with DDOT, the DC OAG, and FHWA to further the development of the authorization and regulatory approvals needed to move the project forward as a P3 concession.

The following tasks were performed as part of the Phase 2 study:

- Conducted P3 project delivery charettes with DDOT Management and DC Government staff
- Assisted in the development of P3 legislation for the District of Columbia
- Assisted in the development of a Transportation Financing Authority Legislation for the District of Columbia
- Prepared application for tolling authority from FHWA
- Evaluated and recommended preferred alignment options and access points per corridor

- Prepared tolling strategy whitepaper
- Identified NEPA strategy per corridor
- Prepared sketch-level traffic and revenue per corridor
- Prepared financial models per corridor
- Performed parking demand and revenue analysis
- Developed project cost estimates per corridor
- Developed and maintained project development schedule
- Developed and implemented stakeholder outreach program

Throughout the study period, the project team met regularly with DDOT to provide progress updates, obtain approval on final alignments and access points, to finalize the tolling strategy, and gain approval on an outreach strategy.

Results/Recommendations

As the Phase 2 study concludes, the project team has identified an alignment within each corridor that appears to be technically feasible to move the project forward to preliminary engineering and procurement. Many of the assumptions and the critical gaps identified as part of the Phase 1 study were verified and the project concept and alignment continued to point to a viable project.

The parking demand analysis determined that a combined facility for both motor coach and personal vehicles has merit and could be revenue positive. The sketch-level traffic and revenue provided gross annual revenues that appear to be acceptable to DDOT. The financial models appear viable for a P3 delivery; but could require either an injection of a government subsidy or the use of availability payments. The financial viability will be further analyzed as part of the project's development and environmental review. A tolling strategy has been developed for each corridor as well as the project delivery strategy.

A strategy for the environmental review and approvals for each corridor was identified. Those strategies will be presented to FHWA for approval, and will be performed as part of the overall project development.

The key stakeholder outreach plan has been developed and is being implemented to provide key staff within DC government with a project briefing.

The goals of the Phase 2 study were met and the project team concluded that the project does have merit, appears to be technically feasible, and appears viable as a candidate for a P3 project delivery. The project team

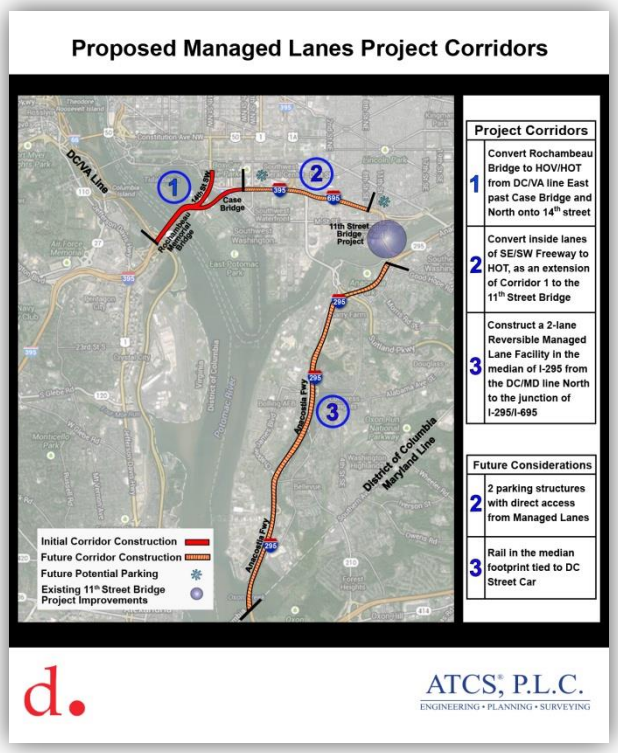
recommended to DDOT that the project move out of the feasibility stage and into Preliminary Engineering (PE) and Environmental review. During PE and Environmental, the project can have more detailed engineering performed and the impact to the environment can be reviewed and will further determine the overall ability to develop and procure the project as a P3; as well as further developing the financial models, including identifying the amount of potential government subsidy.

Concurrently, the P3 delivery requirements for DDOT; legislation, guidelines, procurement documents, contract documents, need to be developed. The tolling operations and back office for DDOT need to be developed.

PROJECT DESCRIPTION

The managed lanes project (project) consists of a network of three (3) independent corridors linked to provide access into and through the District of Columbia to provide a predictable travel time. The project will promote multi-modal and High Occupancy Vehicle (HOV) use and promote the reduction of Single Occupancy Vehicle (SOV) travel into the District. The project utilizes the existing transportation network and makes improvements to that network as appropriate and required to provide a managed lanes facility. The Project footprint is conceived to minimize impacts to right of way and District residents. The Project corridors are:

- Corridor 1 – Rochambeau Bridge/14th Street
- Corridor 2 – Southwest Freeway (I-395) / Southeast Freeway (I-695)
- Corridor 3 – I-295



A more detailed description of each corridor follows. For a graphical representation of each corridor, access points, and proposed alignment, refer to the appropriate corridor exhibit included with this report. Corridor 2 is being proposed to be developed in phases. If approved, then the initial phase extends the Corridor 1 alignment to the 11th Street Bridge, which effectively makes it Corridor 1 Extended.

CORRIDOR 1 - ROCHAMBEAU BRIDGE/14TH STREET

The Rochambeau Bridge is the middle span of the three (3) 14th Street Bridges and currently consists of two northbound lanes and two southbound lanes. This project would initially convert the existing lanes into High Occupancy Vehicle (HOV) lanes and ultimately into managed lanes. Currently there are no HOV lanes on freeways in the District and the existing HOV system in

Virginia terminates just west of the proposed western terminus of this segment. Implementation of managed lanes on the bridge would allow the HOV system on I-395 to be continued into the District.

Traveling in the northbound direction, there will be three ways to enter the managed lanes system: 1) From the I-395 NB HOV lanes; 2) From the on-ramp from Eads Street near the Pentagon; and 3) From the slip ramp from NB I-395 general purpose lanes, just north of the I-395 overpass over Eads Street in Arlington.

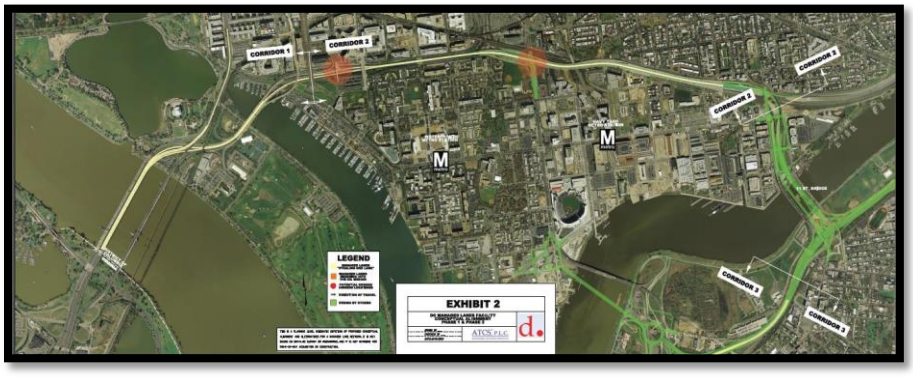
The managed lanes will begin at the southern end of the Rochambeau Bridge which is the Virginia/District of Columbia border and extend across the Case Bridge and a short distance on 14th Street. There will be two exits from the northbound managed lanes; the exit to NB 14th Street, SW, and the exit back to the I-395 General Purpose lanes.

Traveling in the westbound direction along I-395, the entrance into the managed lanes will be prior to the Case Bridge; and traveling in the southern direction on 14th Street, the entrance into the managed lanes will be prior to the access ramp onto the Rochambeau Bridge.

Corridor 1 is proposed to be developed as a traditional Design-Bid-Build project in two (2) phases. The first phase will be the designation of the Rochambeau Bridge as a HOV-3 facility. The second phase will be to convert the corridor to a managed lanes facility.

CORRIDOR 1 EXTENDED/CORRIDOR 2 - SOUTHEAST (I-395)/SOUTHWEST FREEWAY (I-695)

The managed lanes facility in this corridor would connect to the Corridor 1 managed lanes and extend the network to just prior of the 11th St Bridge. The intended project would convert existing interior general purpose lanes in each direction to managed lanes. Corridor 2 is proposed with limited access points onto and off the managed lanes facility.



During this phase the merits of several combinations of build/no-build, alignments options and access points were considered. The options that were focused on were build vs. no-build and access to South Capitol Street and/or C Street/I-395 north tunnel. These were analyzed based on design feasibility, right of way impacts, anticipated traffic

volume and construction costs. The preferred option for this corridor is to convert one general purpose lane in each direction as an extension of Corridor 1 (Corridor 1 Extended) with the option to build an access ramp to C Street/I-395 north tunnel in the future.

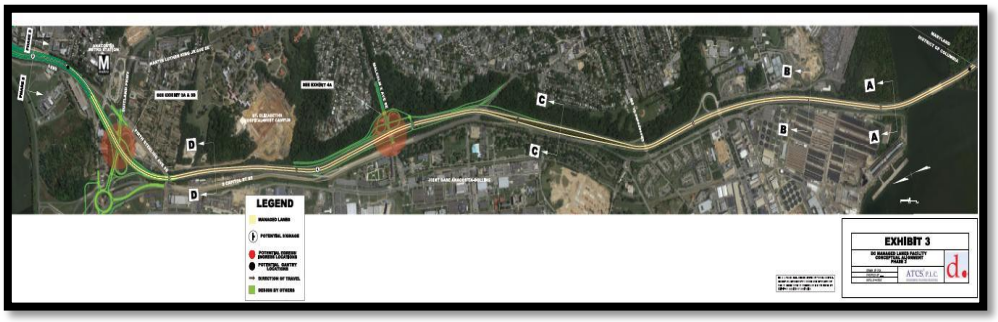
The preferred option would provide access only from the terminus points on the east and west of the corridor, and from the L'Enfant Plaza area from 9th Street. Additionally, future improvements along the corridor may include an access ramp off of the managed lanes to the C Street / I-395 north tunnel.

Corridor 2 includes the potential for parking garages with direct access from the managed lanes to be constructed in the Air Rights of I-395 in the L'Enfant Plaza area and near the 11th Street Bridge area.

Corridor 2 is proposed to be developed as part of an overall P3 concession that could be constructed concurrently with Corridor 3. The preferred option of Corridor 1 Extended could be developed and delivered concurrently with Corridor 1 as a Design-Bid-Build project.

CORRIDOR 3 - I-295

The managed lane facility for Corridor 3 will be constructed in the footprint of I-295 from the Maryland/DC border to just prior to the 11th St Bridge.



During this phase of the study several alignment and access options were considered. Since right of way is less limited in this corridor all considered options included adding new capacity. The study specifically focused on one lane in each direction, two lanes in each direction and 2 reversible lanes and the access points that would provide the most utility. These options were analyzed based on design feasibility, right of way impacts, anticipated traffic volume and construction costs.

The preferred project would be a 2-lane reversible facility that would have access to South Capitol Street Bridge/Suitland Parkway and Malcolm X Avenue employment and recreational centers of the Southwest Waterfront. The northern terminus of the corridor would be between the Suitland Parkway/South Capitol Street exit and the

junction of I-295/I-695. The southern terminus of the corridor would be the DC/Maryland border at the Bridge over Oxon Creek. Ultimately, it is envisioned that the project would extend into Maryland with a direct connect to the express lanes across the Woodrow Wilson Bridge, and with the potential connection to the National Harbor site.

As part of the development of the corridor, the footprint will preserve capacity for future rail to be constructed and tied to the District's Streetcar project.

Corridor 3 is proposed to be developed as a P3 concession.

PROJECT POTENTIAL EFFECTS AND BENEFITS

TRAFFIC

A goal of the study was to determine if a managed lanes network would be a useful tool to help address the growing congestion within the District. As we analyzed the proposed project corridors, the majority of the traffic was coming into and through the District, mainly as Single Occupancy Vehicles (SOV). A focus of the project team was to look at how to reduce the number of SOV and promote a more efficient means to generate "people trips" into the District. Carpooling is one of the strategies used to help manage congestion and reduce the number of vehicles on a transportation facility while increasing the number of people on that facility. Currently, the District does not have any roadway with a High Occupancy Vehicle (HOV) designation that would promote and provide an incentive for carpooling. The managed lanes project would provide that HOV facility. A key component of the managed lanes tolling strategy would be that HOV-3+ would be able to use the facility for free. This is a great benefit and incentive to promote HOV and reduce the number of vehicles entering into the District. Fewer vehicles help to reduce congestion within the project corridor, as well as reducing vehicles on local streets.

Regionally, the managed lanes project would provide for an extension of the HOV facility within Virginia traveling into the District. Currently, the HOV restrictions on I-95/I-395 in Virginia terminate just south of the Potomac River.
The proposed southern terminus of Corridor 1 is the Virginia/DC border on the south side of the Potomac River. Corridor 3, I-295, lies within the Anacostia region which has several planned government and commercial business development as well as residential business development. The managed lanes project would add capacity along I-295 and continue to promote and encourage the practice of HOV, and the reduction of SOV.

One of the primary benefits of a managed lane facility is that it provides for a more predictable travel time. The concept of dynamic tolling is that congestion is managed within the facility by adjusting the tolled amount to use the facility to maintain a minimum travel speed, typically 45 miles per hour. The project corridor has distinct destination points within the District that those traveling into and through the District would consider and benefit from the predictability of travel time. The extent of this predictable travel time will be further determined during the PE and environmental review phase of the project.

ENGINEERING FEASIBILITY AND CONSTRUCTABILITY

The project team focused on alignments and access points and their impacts to the existing corridor and right of way. Each corridor was analyzed independently within its limits.

Corridor 1 has very limited risk to engineering and constructability. This corridor converts one of the three river crossings over the Potomac River, the Rochambeau Bridge, to an HOV facility and then ultimately to a HOT facility. The corridor gets improvements with rehabilitation to the existing shoulders and pavement overlay, new pavement markings and signage, the addition of variable message signage for traffic information and tolling rate information. Along 14th Street, the final design will determine the terminus based on operational effectiveness of the signalized intersections.

Corridor 2 poses greater risk for the preliminary engineering and constructability. This corridor is constrained in both the horizontal and vertical directions. As the preferred option is to convert the existing inside general purpose lanes in each direction to HOT, this impacts the current access from Maine Avenue and 9th Street. The decisions to close the Maine Avenue access and to designate the 9th Street access as HOT only need to be finalized. As currently envisioned, this option does not replace the capacity that is converted to HOT lanes. Providing access to the C Street/I-395 Tunnel and South Capitol Street would have significant impact to right of way. The project team proposes that the contract agreement with the private concessionaire does not preclude DDOT from requiring the entire corridor be improved at a future date to include adding additional capacity as well as access ramps to the C Street/I-395 Tunnel. Similar to Corridor 1, Corridor 2 will get rehabilitation improvements to shoulders, pavement, pavement markings and signage.

Corridor 3 has some risk for the preliminary engineering and constructability. The 2-lane reversible facility is planned to be constructed in the median of I-295. The majority of the corridor can be constructed with limited impact to the existing right of way. Corridor 3 consists of all new construction and adds capacity to the existing corridor. The facility would also be designed to preserve the footprint for future rail construction. The median throughout is

bifurcated between the north and south bound lanes, so the managed lane facility will need to be designed with retaining walls.

The preliminary engineering and constructability risk lies with the access to the Malcolm X Avenue and the South Capitol Street/Suitland Parkway interchanges. The engineering challenge will be in the design of access ramps while minimizing the impact to right of way.

IMPLEMENTATION COSTS

During the feasibility study, cost estimates for construction, yearly operation and maintenance, and lifecycle maintenance were developed for each alignment of the three corridors. The project team focused on how to deliver the project at the lowest project cost. Below are the details for the recommended alignments.

- Corridor 1 – Rochambeau Bridge requires minimal construction effort to implement as managed lanes because existing infrastructure will be used. The major elements of Corridor 1 construction cost estimate are MOT, tolling equipment, signage, lane delineation, design and construction management. This corridor of the project is being pursued as a design-bid-build to allow for the design and implementation to run concurrently with the planning for the remaining corridors of the project.

- Corridor 1 Extended/Corridor 2 – I-395/I-695 is a continuation of the Corridor 1 managed lane with no access on or off in this section until past the South Capitol Street exit. This option has limited construction costs, very similar to Corridor 1 since it uses existing infrastructure, to include MOT, tolling equipment, signage, lane delineation, design and construction management. This corridor of the project is intended to be delivered as a Public-Private Partnership (P3) in conjunction with Corridor 3.

    - Option 2 includes access to the I-395 tunnel. We derived this option from the traffic and revenue studies that indicated about 40% of anticipated traffic volumes utilize this movement during peak hours, and would benefit from the predictability of travel time through the use of a managed lane system. The alignment to provide this access will require acquisition of additional Right-of-Way along the corridor and the construction of a large fly-over ramp, both of which increase the cost of construction dramatically. In addition to those costs there was also MOT, tolling equipment, signage, lane delineation, design and construction management.

The preferred option for Corridor 2 is to develop this project in two (2) phases. Initially, move forward with the conversion of the inside general purpose lanes in each direction to managed lanes as an extension of Corridor 1, and then construct the access to the C Street/I-395 tunnel at a later time. As this corridor is proposed as a P3 concession, the private concessionaire will have the flexibility of working with DDOT on timing and development of the access ramp.

- Corridor 3 – I-295 had six potential alignments; three separate roadway configurations each with and without a rail feature. Due to the existing configuration and location of this corridor all options are build options with limited Right-of-Way acquisition required. Two access points were considered; Malcolm X Avenue and South Capitol Street/Suitland Parkway. Each of these access points will have an exit from the northbound direction and an entrance to the southbound direction. The preferred option consists of the construction of two reversible managed lanes built into the median; northbound in the am peak and southbound in the pm peak. The lanes would be operational during non-peak periods, but the timing and direction has yet to be determined. The construction costs include roadway and overpass construction and interchange access, MOT, lane delineation, rehabilitation of existing infrastructure, tolling equipment, reversible access barriers, signage, design and construction management. As this corridor is proposed as a P3 concession, the private concessionaire will have the flexibility of working with DDOT on timing and development of the construction of the rail component.

DDOT Managed Lanes

Cost Estimate Projections

Corridor 1	Construction Cost	$ 5,913,677
	O&M Cost (Annual)	$ 262,899

Corridor 2	**Options**	**No-build - No Access to I-395**	**No-build with I-395 Access**	**Rebuild- No Access to I-395**	**Rebuild with I-395 Access**
	Construction Cost	$ 8,241,553	$ 34,221,060	$ 197,161,207	$ 221,579,186
	O&M Cost (Annual)	$ 356,719	$ 366,094	$ 356,719	$ 366,191

Corridor 3	**Options**	**1 Lane in Each Direction**	**1 Lane in Each Direction W/Rail**	**2 Lanes in Each Direction**	**2 Lanes in Each Direction w/Rail**	**2 Reversible Lanes**	**2 Reversible Lanes W/ Rail**
	Construction Cost	$ 367,870,221	$ 580,479,871	$ 476,245,217	$ 704,078,267	$ 348,358,731	$ 556,610,448
	O&M Cost (Annual)	$ 544,981	$ 544,981	$ 744,081	$ 744,081	$ 649,175	$ 649,175

The final project costs will be determined during the environmental process as the technical elements and engineering are further developed.

REVENUE

The revenue generated by the managed lanes project will be utilized within the existing corridor. The revenue will be used to offset the capital costs incurred for the project as well as for the maintenance and operations of the facility. A secondary benefit of this for DDOT and the residents of the District is that federal obligations that would normally be allocated for improvement projects on the corridor would not be required and DDOT gains flexibility on funding other projects within its program.

The current projected annual gross revenues, based on the sketch level traffic and revenue analysis, are noted below along with the estimated capital improvement costs.

Corridor	Preliminary Capital Costs	Gross Annual Revenue		
		Year 2020	Year 2035	Year 2050
1	$5.9M	$8.2M	$21.7M	$37.0M
1+2	$8.24M (Corridor 2 only)	$9.1M	$22.5M	$38.3M
3	$348.4M	$3.2M	$13.0M	$22.1M

LOCAL RESIDENTS

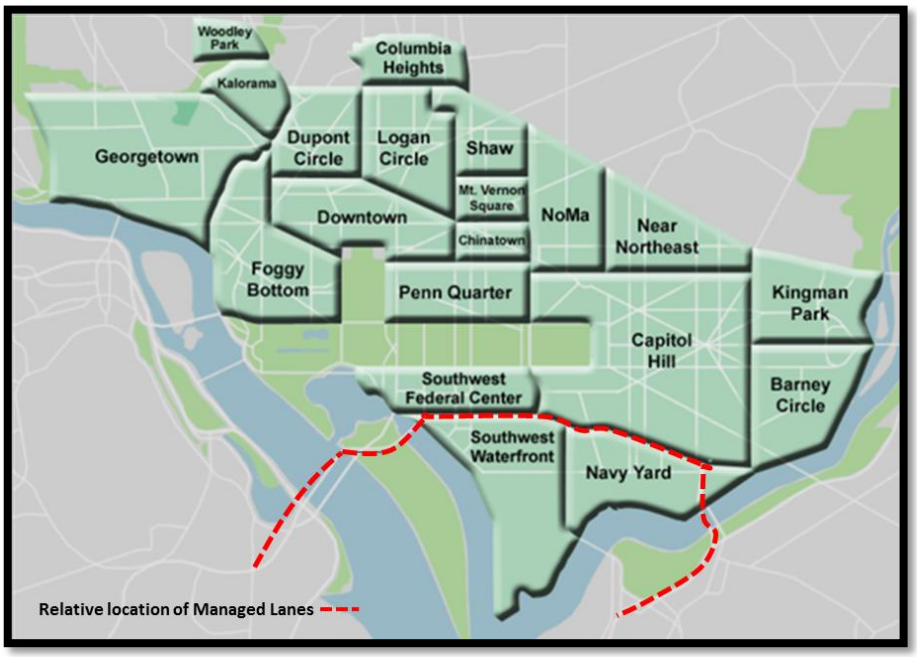
During Phase 2 one of the criteria used to evaluate the project was how it would impact the local residents. A major component of the project is to encourage High Occupancy Vehicle travel and reduce the number of Single Occupancy Vehicles coming into the District. The fewer vehicles coming in should reduce congestion within the District interstates and the local streets. The project is also focused on connecting with and developing multi-modal facilities. The potential parking structures, the connection with rail and the District's Streetcar project are all benefits to the local residents.

Another aspect of the project is that the infrastructure maintains a "free" option throughout the entire project corridor so no individual driving along the corridor is required to utilize the managed lanes facility.

PARKING

A unique aspect of the project was to analyze the feasibility of adding parking structures for personal vehicles and motor coaches to the project. The project team analyzed if a parking structure with direct access from the managed

lanes facility would be feasible and if it would be financially viable. The parking analysis found that the demand was greatest for a facility for motor coaches, such as tour buses, but that the demand for personal vehicle parking was limited. A combined structure for both motor coach and personal vehicle was feasible and had potential.



The scope of the analysis included:

- Conduct a parking market rate and demand analysis for passenger vehicles
- Review motor coach market and demand projection established by DDOT
- Establish parking rates and passenger/motor coach capture for the subject structured parking locations
- Estimate structured parking construction and development costs
- Prepare a preliminary financial Proforma analysis

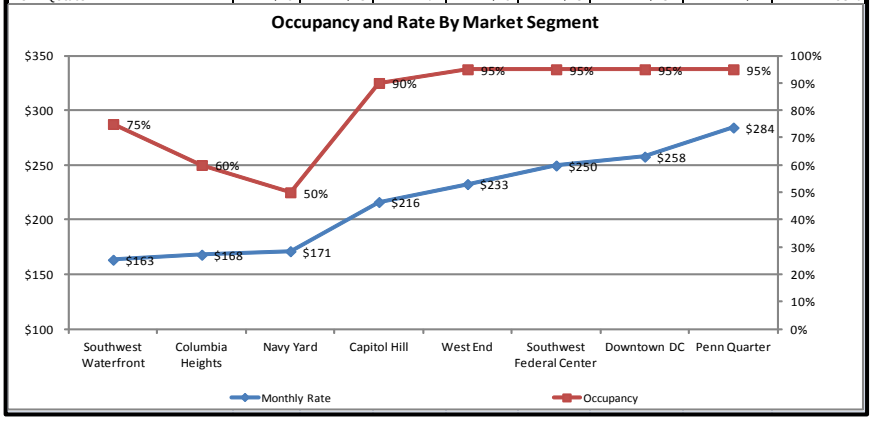
Daily Motor coach Volume During	
Peak Season	**2,000**
Demand at Peak	**1,000** [1]
Private Spaces	200
Union Station	100
RFK Stadium	40
Curbside Parking	40
Pick Up Drop Off	100
Illegal Parking	50
Unmet Parking Demand	**470**

1) Assumes 50% of motor coach volume enters the city at peak

The graphics from the analysis demonstrate the District "neighborhoods" analyzed; a competitive rate analysis for passenger vehicles; and the daily volume peak demand for motor coach parking.

Competitive Rate Analysis for Washington, DC By Market Segment

Market Area Average	1 hr	2hrs	3hrs	Max	EB	Monthly Rate	Monthly Rate / 20 Working Days	Occupancy
Southwest Waterfront	$7	$4	$6	$12	$10	$163	$8	75%
Columbia Heights	$7	$4	$6	$15	$6	$168	$8	60%
Navy Yard	$7	$8	$10	$12	$8	$171	$9	50%
Capitol Hill	$10	$12	$11	$18	$11	$216	$11	90%
West End	$10	$16	N/A	$17	$10	$233	$12	95%
Southwest Federal Center	$10	$13	N/A	$18	$13	$250	$12	95%
Downtown DC	$10	$16	$16	$17	$9	$258	$13	95%
Penn Quarter	$10	$18	N/A	$20	$15	$284	$14	95%



The concept of the parking structures is to provide a multi-modal hub that vehicles could park and the driver could then make a mode shift to metro, street car, bus, and even the District's bike share program. The detailed report of the parking demand analysis can be found in the exhibits to this report.

REGIONAL NETWORK

The Washington Metropolitan area is embracing the concept of managed lanes as a viable tool to address congestion. Virginia and Maryland have roadways that currently use this congestion management tool: the I-495 Capital Beltway Express Lanes in Virginia; and the InterCounty Connector in Maryland. The proposed managed lanes project brings the District in line with its neighboring states. The proposed network provides access into and through the District for resident of the District, Virginia, and Maryland. Virginia is currently constructing the I-95 Express Lanes project with a northern terminus near Edsall Road, and maintains plans for a future expansion of the express lanes to continue north on I-395 to just south of the border between Virginia and the District. DDOT's proposed managed lanes project would provide a natural continuation into the District and would be an integral part of developing a regional approach to congestion management.

Recently the National Capital Region Transportation Planning Board (TPB) and the Metropolitan Washington Council of Governments (MWCOG) conducted a study on the public's acceptance of congestion pricing as a tool to manage congestion in the Metropolitan Washington area. Of the proposed options in that study, the concept of managed lanes had the most support by residents in the District, Virginia and Maryland. A key factor in that support was the development of a regional approach to managing congestion.

PROJECT DELIVERY STRATEGIES

A primary focus of the feasibility study was to determine if the project could be delivered as a Public Private Partnership. Throughout the study, each corridor was evaluated against that criterion. While it was a desired goal to determine the viability of P3 delivery, the project team did not eliminate other delivery methods during the study.

Corridor 1, given the nature of the project, that the facility is currently in operation and the minimal capital improvements and desired delivery schedule, was not deemed to be a viable candidate for a P3 delivery. The project is being proposed to be developed and procured as a traditional Design-Bid-Build. The proposed timeline for Corridor 1 is to have the project operational by the spring 2015 to align with the opening of the I-95/I-395 Express Lanes project in Virginia.

Corridor 2 is planned to be developed and delivered as part of a P3 concession that would include both Corridors 1 and 3. The development and delivery schedule and strategy for Corridor 2 depends on the required environmental review. If the proposed option to convert the inside general purpose lanes to a managed lanes facility is selected as an initial phase, it is anticipated that the environmental review required could be a Categorical Exclusion (CE), which could allow Corridor 2 to be considered for delivery as a Design-Bid-Build along with Corridor 1.

Corridor 3 is planned as to be developed and delivered as a P3 concession. It is anticipated that Corridor 3 will require a full Environmental Impact Statement (EIS) and that the development schedule will be led by the requirements of the EIS and that procurement and construction would not begin for at least 36 months.

The intent for the entire project is that Corridor 1 and Corridor 2 would be transferred to the concessionaire team after Corridor 3 is operational.

PROJECT TOLLING STRATEGIES

As currently proposed, the project will be a managed lane facility with dynamic tolling based on congestion pricing. While the pricing structure is an element that will need to be developed as part of the PE and Environmental review, the proposed tolling policy includes:

- All electronic tolling using the E-ZPass system
    - Provides for interoperability with regional toll facilities
    - Requires vehicles to use transponders
- Electronic signage to display pricing information
- Tolling operations to be contracted to the concessionaire and/or another toll operations entity

Tolling Operations will be implemented as follows:

Toll Free Use	Tolled Use	Prohibited
HOV-3+	SOV	Three+ Axle Trucks
Commuter buses	HOV-2	Vehicles towing trailers
School buses	Tour Buses	
Mass transit buses	Two-Axle Trucks	
Emergency Vehicles		
Maintenance Vehicles		
Motorcycles		

PROJECT TRAFFIC & REVENUE

Transportation planning analyses were conducted to assess all three corridors of this project. Utilizing best available data and best available methods, including the development of tailored applications of the Metropolitan Washington Council of Governments travel forecasting models, traffic projections were developed for the managed lanes and for the adjoining general purpose lanes. Future year traffic projections were developed for the morning and evening peak periods and for other hours of the day, in addition to daily traffic volumes. The future year traffic projections were based on land use forecasts consistent with the MWCOG's Cooperative Land Use Forecasts for the Washington Metropolitan area. The detailed report of the traffic and revenue analysis can be found in the exhibits to this report. Below are the summary tables showing both the "Revenue Maximization" and the "Traffic Optimization" scenarios for the analysis.

Table 7
Annual Traffic and Revenue Estimates, All Corridors and Options, Revenue Optimization
Sketch Level Estimates, 2015-2065
millions

	Corridor 1			Corridor 1+2 (Y0)			Corridor 1+2 (Y1)			Corridor 3 (X0)			Corridor 3 (X1)			Corridor 3 (X2)		
	Traffic	Revenue	Rev/Tr	Traffic	Revenue	Rev/Tr	Traffic	Revenue	Rev/Tr	Traffic	Revenue	Rev/Tr	Traffic	Revenue	Rev/Tr	Traffic	Revenue	Rev/Tr
2015	3.56	$5.31	$1.49	3.35	$5.20	$1.56	3.56	$5.31	$1.49									
2016	4.16	$6.47	$1.56	3.90	$6.35	$1.63	4.16	$6.47	$1.56									
2017	4.24	$6.91	$1.63	3.98	$6.77	$1.70	4.24	$6.91	$1.63									
2018	4.33	$7.37	$1.70	4.06	$7.23	$1.78	4.33	$7.37	$1.70									
2019	4.42	$7.86	$1.78	4.14	$7.71	$1.86	4.42	$7.86	$1.78									
2020	4.51	$8.39	$1.86	5.40	$11.17	$2.07	5.38	$9.13	$1.70	3.19	$3.23	$1.01	2.43	$2.50	$1.03	3.30	$3.28	$0.99
2021	4.61	$8.95	$1.94	5.49	$11.91	$2.17	5.49	$9.70	$1.77	4.34	$4.63	$1.07	3.33	$3.63	$1.09	4.50	$4.71	$1.05
2022	4.70	$9.55	$2.03	5.59	$12.70	$2.27	5.61	$10.30	$1.83	4.99	$5.65	$1.13	3.87	$4.47	$1.16	5.21	$5.75	$1.10
2023	4.80	$10.19	$2.12	5.69	$13.54	$2.38	5.74	$10.94	$1.91	5.03	$6.02	$1.20	3.94	$4.82	$1.22	5.27	$6.13	$1.16
2024	4.90	$10.88	$2.22	5.79	$14.44	$2.50	5.86	$11.62	$1.98	5.07	$6.42	$1.27	4.02	$5.19	$1.29	5.34	$6.54	$1.23
2025	5.01	$11.61	$2.32	5.89	$15.39	$2.62	5.99	$12.34	$2.06	5.11	$6.85	$1.34	4.09	$5.60	$1.37	5.40	$6.98	$1.29
2026	5.11	$12.39	$2.42	5.99	$16.41	$2.74	6.12	$13.10	$2.14	5.15	$7.30	$1.42	4.17	$6.03	$1.45	5.47	$7.45	$1.36
2027	5.22	$13.22	$2.53	6.09	$17.50	$2.87	6.25	$13.92	$2.22	5.20	$7.79	$1.50	4.24	$6.50	$1.53	5.54	$7.95	$1.44
2028	5.32	$14.10	$2.65	6.20	$18.66	$3.01	6.39	$14.78	$2.31	5.24	$8.31	$1.59	4.32	$7.00	$1.62	5.61	$8.48	$1.51
2029	5.44	$15.05	$2.77	6.31	$19.90	$3.16	6.53	$15.70	$2.40	5.28	$8.86	$1.68	4.40	$7.54	$1.71	5.68	$9.05	$1.59
2030	5.55	$16.06	$2.89	6.42	$21.22	$3.31	6.67	$16.67	$2.50	5.32	$9.45	$1.78	4.48	$8.13	$1.81	5.75	$9.66	$1.68
2031	5.67	$17.13	$3.02	6.53	$22.62	$3.47	6.82	$17.70	$2.60	5.36	$10.07	$1.88	4.57	$8.76	$1.92	5.82	$10.31	$1.77
2032	5.78	$18.28	$3.16	6.64	$24.12	$3.63	6.97	$18.80	$2.70	5.41	$10.74	$1.99	4.65	$9.44	$2.03	5.89	$11.00	$1.87
2033	5.90	$19.51	$3.30	6.76	$25.72	$3.81	7.12	$19.97	$2.80	5.45	$11.45	$2.10	4.74	$10.17	$2.15	5.96	$11.73	$1.97
2034	6.03	$20.81	$3.45	6.87	$27.42	$3.99	7.28	$21.21	$2.91	5.49	$12.22	$2.22	4.83	$10.96	$2.27	6.04	$12.52	$2.07
2035	6.15	$22.21	$3.61	6.99	$29.24	$4.18	7.44	$22.52	$3.03	5.54	$13.03	$2.35	4.91	$11.80	$2.40	6.11	$13.36	$2.19
2036	6.18	$23.10	$3.74	7.03	$30.41	$4.33	7.47	$23.42	$3.13	5.56	$13.55	$2.44	4.94	$12.28	$2.49	6.14	$13.89	$2.26
2037	6.21	$24.02	$3.87	7.06	$31.62	$4.48	7.51	$24.36	$3.24	5.59	$14.09	$2.52	4.96	$12.77	$2.57	6.17	$14.45	$2.34
2038	6.25	$24.98	$4.00	7.10	$32.89	$4.63	7.55	$25.33	$3.36	5.62	$14.65	$2.61	4.99	$13.28	$2.66	6.20	$15.03	$2.42
2039	6.28	$25.86	$4.12	7.13	$34.04	$4.77	7.59	$26.22	$3.46	5.65	$15.17	$2.69	5.01	$13.74	$2.74	6.23	$15.55	$2.49
2040	6.31	$26.76	$4.24	7.17	$35.23	$4.91	7.62	$27.14	$3.56	5.68	$15.70	$2.77	5.04	$14.22	$2.82	6.27	$16.10	$2.57
2041	6.34	$27.70	$4.37	7.21	$36.47	$5.06	7.66	$28.09	$3.67	5.70	$16.25	$2.85	5.06	$14.72	$2.91	6.30	$16.66	$2.65
2042	6.37	$28.67	$4.50	7.24	$37.74	$5.21	7.70	$29.07	$3.78	5.73	$16.81	$2.93	5.09	$15.24	$2.99	6.33	$17.24	$2.73
2043	6.40	$29.67	$4.63	7.28	$39.06	$5.37	7.74	$30.09	$3.89	5.76	$17.40	$3.02	5.11	$15.77	$3.08	6.36	$17.85	$2.81
2044	6.44	$30.71	$4.77	7.31	$40.43	$5.53	7.78	$31.14	$4.00	5.79	$18.01	$3.11	5.14	$16.32	$3.18	6.39	$18.47	$2.89
2045	6.47	$31.78	$4.91	7.35	$41.84	$5.69	7.82	$32.23	$4.12	5.82	$18.64	$3.20	5.17	$16.89	$3.27	6.42	$19.12	$2.98
2046	6.50	$32.90	$5.06	7.39	$43.31	$5.86	7.86	$33.36	$4.25	5.85	$19.29	$3.30	5.19	$17.49	$3.37	6.46	$19.79	$3.07
2047	6.53	$34.05	$5.21	7.42	$44.83	$6.04	7.90	$34.53	$4.37	5.88	$19.97	$3.40	5.22	$18.10	$3.47	6.49	$20.48	$3.16
2048	6.56	$35.24	$5.37	7.46	$46.39	$6.22	7.93	$35.73	$4.50	5.91	$20.67	$3.50	5.24	$18.73	$3.57	6.52	$21.20	$3.25
2049	6.60	$36.47	$5.53	7.50	$48.02	$6.40	7.97	$36.99	$4.64	5.94	$21.39	$3.60	5.27	$19.39	$3.68	6.55	$21.94	$3.35
2050	6.63	$37.75	$5.69	7.54	$49.70	$6.60	8.01	$38.28	$4.78	5.97	$22.14	$3.71	5.30	$20.07	$3.79	6.59	$22.70	$3.45
2051	6.66	$39.07	$5.86	7.57	$51.44	$6.79	8.05	$39.62	$4.92	6.00	$22.92	$3.82	5.32	$20.77	$3.90	6.62	$23.50	$3.55
2052	6.70	$40.44	$6.04	7.61	$53.24	$6.99	8.09	$41.01	$5.07	6.03	$23.72	$3.94	5.35	$21.49	$4.02	6.65	$24.32	$3.66
2053	6.73	$41.85	$6.22	7.65	$55.10	$7.20	8.13	$42.44	$5.22	6.06	$24.55	$4.05	5.38	$22.25	$4.14	6.68	$25.17	$3.77
2054	6.76	$43.32	$6.40	7.69	$57.03	$7.42	8.18	$43.93	$5.37	6.09	$25.41	$4.17	5.40	$23.03	$4.26	6.72	$26.05	$3.88
2055	6.80	$44.83	$6.60	7.73	$59.03	$7.64	8.22	$45.46	$5.53	6.12	$26.30	$4.30	5.43	$23.83	$4.39	6.75	$26.97	$3.99
2056	6.83	$46.40	$6.79	7.76	$61.09	$7.87	8.26	$47.06	$5.70	6.15	$27.22	$4.43	5.46	$24.67	$4.52	6.79	$27.91	$4.11
2057	6.87	$48.03	$7.00	7.80	$63.23	$8.10	8.30	$48.70	$5.87	6.18	$28.17	$4.56	5.48	$25.53	$4.65	6.82	$28.89	$4.24
2058	6.90	$49.71	$7.20	7.84	$65.44	$8.35	8.34	$50.41	$6.04	6.21	$29.16	$4.70	5.51	$26.42	$4.79	6.85	$29.90	$4.36
2059	6.93	$51.45	$7.42	7.88	$67.73	$8.59	8.38	$52.17	$6.22	6.24	$30.18	$4.84	5.54	$27.35	$4.94	6.89	$30.94	$4.49
2060	6.97	$53.25	$7.64	7.92	$70.10	$8.85	8.42	$54.00	$6.41	6.27	$31.23	$4.98	5.57	$28.30	$5.08	6.92	$32.03	$4.63
2061	7.00	$55.11	$7.87	7.96	$72.56	$9.12	8.47	$55.89	$6.60	6.30	$32.32	$5.13	5.60	$29.29	$5.24	6.96	$33.15	$4.77
2062	7.04	$57.04	$8.10	8.00	$75.10	$9.39	8.51	$57.84	$6.80	6.33	$33.46	$5.28	5.62	$30.32	$5.39	6.99	$34.31	$4.91
2063	7.07	$59.04	$8.35	8.04	$77.73	$9.67	8.55	$59.87	$7.00	6.37	$34.63	$5.44	5.65	$31.38	$5.55	7.03	$35.51	$5.05
2064	7.11	$61.10	$8.60	8.08	$80.45	$9.96	8.59	$61.96	$7.21	6.40	$35.84	$5.60	5.68	$32.48	$5.72	7.06	$36.75	$5.20
2065	7.14	$63.24	$8.85	8.12	$83.26	$10.25	8.64	$64.13	$7.43	6.43	$37.09	$5.77	5.71	$33.62	$5.89	7.10	$38.04	$5.36

(1) Annual revenues expressed in future year dollars.
(2) See detailed notes in appropriate table in Appendix
(3) Assumes Express Lanes operation begins on January 1, 2015 / 2020.
(4) Ramp-up adjustment factor assumed for first year of operation.

Table 8
Annual Traffic and Revenue Estimates, All Corridors and Options, Traffic Optimization
Sketch Level Estimates, 2015-2065
millions

	Corridor 1			Corridor 1+2 (Y0)			Corridor 1+2 (Y1)			Corridor 3 (X0)			Corridor 3 (X1)			Corridor 3 (X2)		
	Traffic	Revenue	Rev/Tr	Traffic	Revenue	Rev/Tr	Traffic	Revenue	Rev/Tr	Traffic	Revenue	Rev/Tr	Traffic	Revenue	Rev/Tr	Traffic	Revenue	Rev/Tr
2015	4.00	$4.70	$1.17	3.86	$4.61	$1.19	4.00	$4.70	$1.17									
2016	4.68	$5.70	$1.22	4.50	$5.59	$1.24	4.68	$5.70	$1.22									
2017	4.78	$6.05	$1.27	4.60	$5.93	$1.29	4.78	$6.05	$1.27									
2018	4.89	$6.42	$1.31	4.70	$6.29	$1.34	4.89	$6.42	$1.31									
2019	5.00	$6.81	$1.36	4.80	$6.68	$1.39	5.00	$6.81	$1.36									
2020	5.11	$7.22	$1.41	5.91	$10.25	$1.73	5.62	$8.75	$1.56	4.40	$2.65	$0.60	2.87	$2.11	$0.74	4.49	$2.71	$0.60
2021	5.22	$7.67	$1.47	6.01	$10.94	$1.82	5.72	$9.31	$1.63	6.06	$3.80	$0.63	3.93	$3.07	$0.78	6.20	$3.88	$0.63
2022	5.34	$8.13	$1.52	6.10	$11.68	$1.91	5.81	$9.91	$1.71	7.08	$4.62	$0.65	4.56	$3.79	$0.83	7.27	$4.72	$0.65
2023	5.46	$8.63	$1.58	6.20	$12.47	$2.01	5.91	$10.55	$1.79	7.25	$4.92	$0.68	4.64	$4.09	$0.88	7.46	$5.03	$0.67
2024	5.58	$9.16	$1.64	6.29	$13.30	$2.11	6.00	$11.22	$1.87	7.42	$5.23	$0.71	4.72	$4.42	$0.94	7.65	$5.36	$0.70
2025	5.70	$9.72	$1.70	6.39	$14.20	$2.22	6.10	$11.94	$1.96	7.59	$5.56	$0.73	4.80	$4.78	$1.00	7.85	$5.70	$0.73
2026	5.83	$10.31	$1.77	6.49	$15.15	$2.33	6.20	$12.71	$2.05	7.76	$5.92	$0.76	4.88	$5.16	$1.06	8.05	$6.07	$0.75
2027	5.96	$10.94	$1.84	6.60	$16.17	$2.45	6.30	$13.53	$2.15	7.94	$6.30	$0.79	4.96	$5.58	$1.12	8.26	$6.46	$0.78
2028	6.09	$11.61	$1.90	6.70	$17.26	$2.58	6.41	$14.40	$2.25	8.13	$6.70	$0.82	5.04	$6.03	$1.20	8.47	$6.88	$0.81
2029	6.23	$12.31	$1.98	6.80	$18.42	$2.71	6.51	$15.33	$2.35	8.32	$7.13	$0.86	5.13	$6.51	$1.27	8.69	$7.33	$0.84
2030	6.37	$13.07	$2.05	6.91	$19.66	$2.85	6.62	$16.31	$2.46	8.51	$7.59	$0.89	5.22	$7.04	$1.35	8.91	$7.80	$0.88
2031	6.51	$13.86	$2.13	7.02	$20.99	$2.99	6.73	$17.36	$2.58	8.71	$8.07	$0.93	5.30	$7.61	$1.43	9.14	$8.31	$0.91
2032	6.65	$14.71	$2.21	7.13	$22.40	$3.14	6.84	$18.48	$2.70	8.91	$8.59	$0.96	5.39	$8.22	$1.52	9.37	$8.84	$0.94
2033	6.80	$15.61	$2.29	7.24	$23.90	$3.30	6.95	$19.66	$2.83	9.11	$9.14	$1.00	5.49	$8.88	$1.62	9.61	$9.42	$0.98
2034	6.95	$16.56	$2.38	7.36	$25.51	$3.47	7.07	$20.93	$2.96	9.32	$9.72	$1.04	5.58	$9.59	$1.72	9.86	$10.03	$1.02
2035	7.11	$17.57	$2.47	7.47	$27.23	$3.64	7.18	$22.27	$3.10	9.54	$10.34	$1.08	5.67	$10.37	$1.83	10.11	$10.68	$1.06
2036	7.14	$18.27	$2.56	7.51	$28.32	$3.77	7.22	$23.16	$3.21	9.59	$10.76	$1.12	5.70	$10.78	$1.89	10.16	$11.10	$1.09
2037	7.18	$19.00	$2.65	7.55	$29.45	$3.90	7.25	$24.09	$3.32	9.64	$11.19	$1.16	5.73	$11.21	$1.96	10.21	$11.55	$1.13
2038	7.22	$19.77	$2.74	7.58	$30.63	$4.04	7.29	$25.05	$3.44	9.68	$11.64	$1.20	5.76	$11.66	$2.03	10.27	$12.01	$1.17
2039	7.25	$20.46	$2.82	7.62	$31.70	$4.16	7.33	$25.93	$3.54	9.73	$12.04	$1.24	5.79	$12.07	$2.09	10.32	$12.43	$1.20
2040	7.29	$21.17	$2.91	7.66	$32.81	$4.28	7.36	$26.84	$3.64	9.78	$12.46	$1.27	5.82	$12.49	$2.15	10.37	$12.86	$1.24
2041	7.32	$21.91	$2.99	7.70	$33.96	$4.41	7.40	$27.78	$3.75	9.83	$12.90	$1.31	5.85	$12.93	$2.21	10.42	$13.31	$1.28
2042	7.36	$22.68	$3.08	7.74	$35.15	$4.54	7.44	$28.75	$3.87	9.88	$13.35	$1.35	5.87	$13.38	$2.28	10.47	$13.78	$1.32
2043	7.40	$23.47	$3.17	7.78	$36.38	$4.68	7.47	$29.76	$3.98	9.93	$13.82	$1.39	5.90	$13.85	$2.35	10.52	$14.26	$1.36
2044	7.44	$24.30	$3.27	7.81	$37.65	$4.82	7.51	$30.80	$4.10	9.98	$14.30	$1.43	5.93	$14.34	$2.42	10.58	$14.76	$1.40
2045	7.47	$25.15	$3.37	7.85	$38.97	$4.96	7.55	$31.88	$4.22	10.03	$14.80	$1.48	5.96	$14.84	$2.49	10.63	$15.28	$1.44
2046	7.51	$26.03	$3.47	7.89	$40.33	$5.11	7.59	$32.99	$4.35	10.08	$15.32	$1.52	5.99	$15.36	$2.56	10.68	$15.81	$1.48
2047	7.55	$26.94	$3.57	7.93	$41.74	$5.26	7.63	$34.15	$4.48	10.13	$15.86	$1.57	6.02	$15.89	$2.64	10.74	$16.37	$1.52
2048	7.59	$27.88	$3.68	7.97	$43.21	$5.42	7.66	$35.34	$4.61	10.18	$16.41	$1.61	6.05	$16.45	$2.72	10.79	$16.94	$1.57
2049	7.62	$28.86	$3.79	8.01	$44.72	$5.58	7.70	$36.58	$4.75	10.23	$16.99	$1.66	6.08	$17.03	$2.80	10.84	$17.53	$1.62
2050	7.66	$29.87	$3.90	8.05	$46.28	$5.75	7.74	$37.86	$4.89	10.28	$17.58	$1.71	6.11	$17.62	$2.88	10.90	$18.14	$1.66
2051	7.70	$30.91	$4.01	8.09	$47.90	$5.92	7.78	$39.18	$5.04	10.33	$18.20	$1.76	6.14	$18.24	$2.97	10.95	$18.78	$1.71
2052	7.74	$31.99	$4.14	8.13	$49.58	$6.10	7.82	$40.55	$5.19	10.38	$18.84	$1.81	6.18	$18.88	$3.06	11.01	$19.44	$1.77
2053	7.78	$33.11	$4.26	8.17	$51.31	$6.28	7.86	$41.97	$5.34	10.44	$19.49	$1.87	6.21	$19.54	$3.15	11.06	$20.12	$1.82
2054	7.82	$34.27	$4.39	8.21	$53.11	$6.47	7.90	$43.44	$5.50	10.49	$20.18	$1.92	6.24	$20.22	$3.24	11.12	$20.82	$1.87
2055	7.85	$35.47	$4.52	8.25	$54.97	$6.66	7.94	$44.96	$5.67	10.54	$20.88	$1.98	6.27	$20.93	$3.34	11.17	$21.55	$1.93
2056	7.89	$36.71	$4.65	8.30	$56.89	$6.86	7.98	$46.54	$5.84	10.59	$21.61	$2.04	6.30	$21.66	$3.44	11.23	$22.30	$1.99
2057	7.93	$38.00	$4.79	8.34	$58.88	$7.06	8.02	$48.17	$6.01	10.65	$22.37	$2.10	6.33	$22.42	$3.54	11.29	$23.08	$2.05
2058	7.97	$39.33	$4.93	8.38	$60.94	$7.27	8.06	$49.85	$6.19	10.70	$23.15	$2.16	6.36	$23.20	$3.65	11.34	$23.89	$2.11
2059	8.01	$40.70	$5.08	8.42	$63.08	$7.49	8.10	$51.60	$6.37	10.75	$23.96	$2.23	6.39	$24.02	$3.76	11.40	$24.73	$2.17
2060	8.05	$42.13	$5.23	8.46	$65.29	$7.72	8.14	$53.40	$6.56	10.81	$24.80	$2.30	6.43	$24.86	$3.87	11.46	$25.59	$2.23
2061	8.09	$43.60	$5.39	8.50	$67.57	$7.95	8.18	$55.27	$6.76	10.86	$25.67	$2.36	6.46	$25.73	$3.98	11.51	$26.49	$2.30
2062	8.13	$45.13	$5.55	8.55	$69.94	$8.18	8.22	$57.21	$6.96	10.91	$26.57	$2.43	6.49	$26.63	$4.10	11.57	$27.42	$2.37
2063	8.17	$46.71	$5.72	8.59	$72.38	$8.43	8.26	$59.21	$7.17	10.97	$27.50	$2.51	6.52	$27.56	$4.23	11.63	$28.38	$2.44
2064	8.21	$48.34	$5.89	8.63	$74.92	$8.68	8.30	$61.28	$7.38	11.02	$28.46	$2.58	6.56	$28.52	$4.35	11.69	$29.37	$2.51
2065	8.26	$50.04	$6.06	8.68	$77.54	$8.94	8.34	$63.43	$7.60	11.08	$29.46	$2.66	6.59	$29.52	$4.48	11.74	$30.40	$2.59

(1) Annual revenues expressed in future year dollars.
(2) See detailed notes in appropriate table in Appendix
(3) Assumes Express Lanes operation begins on January 1, 2015 / 2020
(4) Ramp-up adjustment factor assumed for first year of operation.

REGULATORY APPROVALS

It is anticipated that the regulatory approvals required for the project can be divided into two categories: District and Federal.

At the District level, the only approvals anticipated are for the procurement of a Public Private Partnership for transportation and the toll collection operations. Both of these should be addressed with the Mayor and District of Columbia City Council.

At the Federal level, the anticipated approvals are tolling authority and the environmental review required by the National Environmental Protection Act (NEPA). The FHWA has indicated that the DDOT has secured one of the Value Pricing Pilot (VPP) slots and can use that program for its tolling authority. Concurrently, the project team understands that under MAP-21 the restrictions on tolling have been reduced for states. It is the intent of the DDOT and the project team to coordinate with FHWA regarding tolling authority that best fits the needs of the District and meets the requirements of MAP-21.

The improvements associated with Corridor 1 are all within the existing right of way and no land is disturbed; it is anticipated that the NEPA document required for Corridor 1 will be a Categorical Exclusion (CE).

If Corridor 2 is developed with the initial phase being the conversion of the inside general purpose lanes without providing access ramps and any capacity improvements that would impact right of way, it is anticipated the NEPA document required for Corridor 2 will also be a CE. With the required closing of the Maine Street ramp and conversion of the 9th Street ramp to HOT only, this may require a higher level of review and it would be anticipated that the NEPA document would be an Environmental Assessment (EA).

Corridor 3 will add new capacity with the 2-lane reversible facility and fixed rail transit and it is anticipated that the NEPA document required will be an Environmental Impact Statement.

DDOT and the project team will coordinate with FHWA, and any other applicable approving agency, to obtain direction during the environmental review process and the NEPA document required for each corridor.

OUTREACH

The project team developed a key stakeholder outreach plan to begin the process of informing stakeholders of the project. The outreach plan was developed in conjunction with DDOT to ensure that all stakeholders on the project are informed. The outreach plan is not the public relations/communication plan that will be part of the Preliminary Engineering and Environmental review.

The outreach plan is divided into four (4) time periods. The first round of outreach includes:

- Congresswoman Eleanor Holmes Norton and Staff

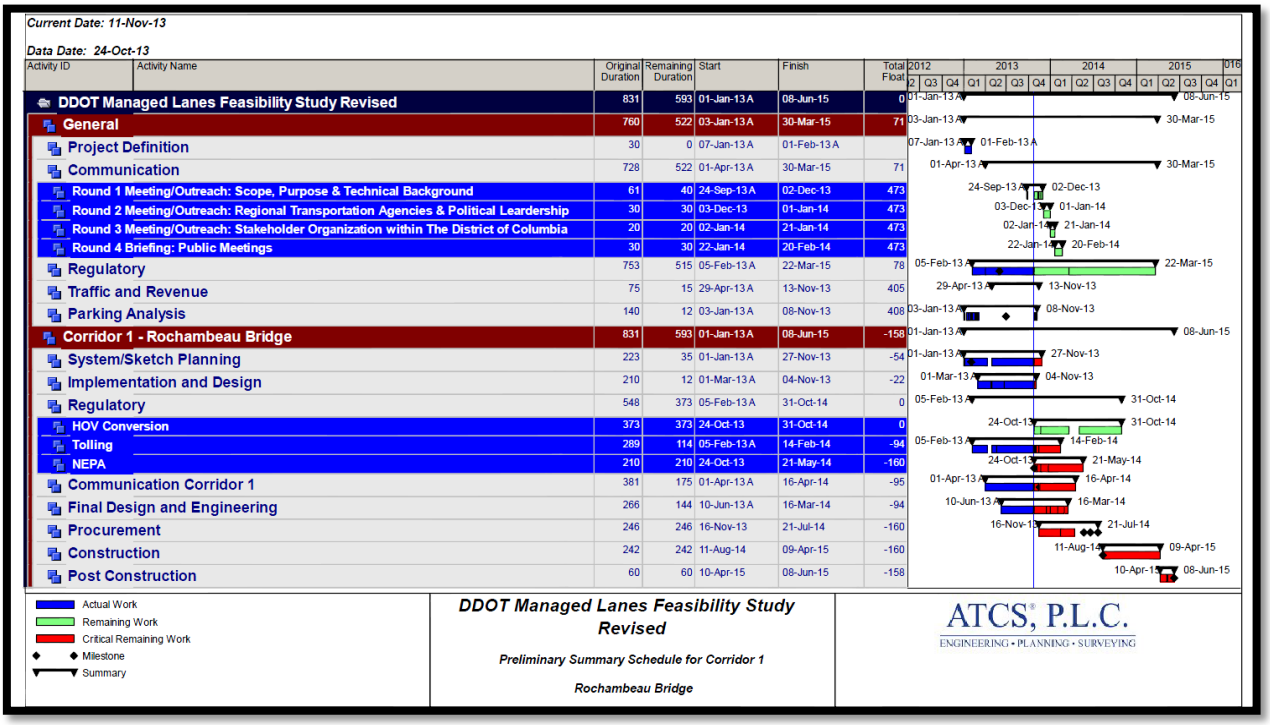
- MWCOG /TPB
- District Council Leadership
- Federal City Council

The second round of outreach will focus on the regional transportation agencies, regional and federal agencies, and political leadership. The third round of outreach will focus on stakeholder organizations within the District. The fourth round is the initiation of public outreach to the community through the DDOT communications protocols.

The first round of stakeholder outreach has been implemented In order to meet the proposed schedule for the development and delivery of Corridor 1 and the requirements and timing for inclusion on DDOT Transportation Improvement Plan (TIP) and the MWCOG/TPB Air Quality Compliance Application.

PROJECT DEVELOPMENT SCHEDULE

At the onset of this project a schedule was developed to provide guidance throughout the process and assist in reaching the targeted opening date for Corridor 1, which currently aligns with the intended opening of the I-95/I-395 HOT lanes in Virginia in early 2015. The schedule is a working document that continues to be updated as the project evolves and more information is known. There are several key factors in the schedule for Corridor 1 but the critical path flows through the NEPA process and the understanding that a categorical exclusion can be obtained for this corridor. The schedule includes each step of the study and implementation process including the major items of development, concept alignment planning, public outreach, and regulatory approvals.



The schedule for Corridors 2 and 3 is at a much higher level since there are still multiple variables including the NEPA process. For these corridors, it is assumed that an Environmental Assessment or Environment Impact Statement will have to be performed which generally take 36 months to receive a decision.

PATH FORWARD

The goal of the Phase 2 Feasibility Study has been met: a more in-depth analysis on the project's feasibility has been conducted and the project team has determined that the project appears to be feasible and viable as a P3 subject to appropriate legislation being passed. The project team recommends that the project move forward to project development, environmental clearance, design, procurement and construction.

DDOT needs to obtain approval by FHWA for the project as a managed lanes project and a P3 delivery candidate. DDOT needs to obtain a program manager to lead the project's development. The initial key activities required to be performed include:

- Procurement of an environmental consultant to perform the required NEPA review
- Traffic analysis and modeling
- Stakeholder outreach, communication, and community engagement
- Project scope development and technical requirements
- Market sounding
- Value for Money analysis
- Procurement of tolling operator
- Coordination for HOV conversion

EXHIBITS

Exhibit 1 – Phase 1 Progress Presentations

Exhibit 2 – Phase 1 Final Presentation

Exhibit 3 – Draft P3 Legislation

Exhibit 4 – Draft TFA Legislation

Exhibit 5 – Preferred Corridor Alignment Graphics

Exhibit 6 – Meeting Agendas and Minutes

Exhibit 7 – Phase 2 Progress Presentations

Exhibit 8 – Phase 2 Cost Estimates

Exhibit 9 – Project Development Schedule

Exhibit 10 – Traffic & Revenue Study Report

Exhibit 11 – Parking Demand Analysis Report

Exhibit 12 – Stakeholder Outreach Plan

Exhibit 13 – Financial Analysis Report

Exhibit 14 – Tolling Policy Whitepaper

Exhibit 15 – Tolling Operation Back Office Whitepaper

Exhibit 16 – Project Delivery Potential Impact Assessment Graphic