EXHIBIT B

CONCEPTUAL DEVELOPMENT PLAN

B. CONCEPTUAL DEVELOPMENT PLAN

The Conceptual Development Plan (CDP) contains preliminary elements of the Master Development Plan (MDP) that NTEMP will produce during the Initial Scope of Work (ISOW) for Segments 2-4. Expediting Segment delivery will be the goal of all ISOW activities.

Assuming a CDA execution date of March 31, 2009, ISOW Milestone 1 is scheduled for completion in June 2009 and the entire ISOW is projected to be complete in September 2010.

A very aggressive delivery schedule is proposed so that congestion relief can be provided uniformly across the entire NTE Corridor as quickly as possible. This plan attempts to mitigate negative effects of merely shifting bottlenecks within a congested system. To realize such a schedule, each Segment will be optimized so that public funds are not required. This will be accomplished using engineering and construction cost optimization, and innovative financing tools and Segment packaging. The Conceptual Development and Financial Plans that follow merely provide the backbone of these concepts that will be expanded on considerably during the MDP creation process within the ISOW.

The culmination of the preliminary Segment analyses creates a very attractive scenario in which all Segments are opened prior to the periods in which public subsidy will be available. The summary of key Segment dates that are proposed follows in Table B-1.

Table B-1 : Summary of Key Segment Dates

Facility	Financial Close	Beginning of Operations	End of Concession
Segment 2E	1/1/2011	**1/1/2016**	12/31/2062
Segment 3A, 3B and 4	1/1/2013	**1/1/2018** (Segment 4 begins construction in 2020 and is completed by **12/31/2024**)	12/31/2064
Segment 3C	1/1/2015	**1/1/2020**	12/31/2066

NTEMP's analysis of the TxDOT-provided Reference Information Document (RID) schematics for Segments 2-4 suggests that, for the most part, the proposed overall configurations are satisfactory to allow for this aggressive schedule, except that capacity expansions for general purpose lanes must be restricted for the managed lane system to support the system financially (so that development can occur with no

additional public funds). Thorough analysis during the ISOW will dictate the optimal capacity improvements for these Segments and potential Segment expansion methodologies that may be included in a particular Segment Facility Agreement.

The only significant design reconfiguration that NTEMP has preliminarily identified consists of replacing the currently contemplated reversible managed lanes on Segment 4 with two concurrent-flow managed lanes in each direction. This will enhance the financial attractiveness of Segment 4 and expand capacity. More detail on this modification is provided in Sections B.5.2 and B.5.4.

The MDP will detail all facets associated with the delivery of Segments 2-4 of the North Tarrant Express Project. One component of this effort is a gauge of the overall economic health and demographics of the DFW Metroplex. It will provide a background for the calculations of traffic, revenue and cost projections for each Segment. The summation of this critical data will ultimately provide justification for the phasing and sequencing of the delivery and future expansions of Segments 2-4. The delivery methodology itself will also be dependent on similar demographic information. These components, including the financial and risk mitigation information provided in the Master Financial Plan (MFP, ultimately, a component of the MDP), will provide the planning information necessary for NTEMP and TxDOT to determine when NTE Segments 2-4 will be deemed Ready for Development.

The MDP will include much more interaction with TxDOT and major stakeholders than is feasible during the procurement process. This interaction is extremely important to ensure that the NTE Segments are delivered in a manner acceptable to the local communities. The approved meetings with leaders of adjoining cities and Tarrant County have demonstrated local enthusiasm for constructing the NTE Project as soon as possible. Many members of the NTEMP Team have resided in the DFW area for many years and bring their local knowledge to facilitate the planning and delivery of NTE.

Delivery Options

NTEMP's plan is to fast-track the delivery of Segments 2-4 as quickly as possible. NTEMP believes that partnering with TxDOT to deliver, operate and maintain Segments 2-4 will produce tangible benefits to the citizens of Texas through congestion relief and travel time savings.

The following discussion is written from the perspective that NTEMP will partner with TxDOT to jointly determine the optimum delivery method for Segments 2-4, thereby minimizing the financial impact.

To manage the spiraling cost escalation effects of materials increase and project delays, NTEMP will create Segment-specific delivery procedures geared toward optimization of both. Each Segment's Facility Implementation Plan will further define these delivery procedures. The options utilized for these decisions will be comprised of the following delivery methods, either in stand-alone form or in some combination:

- Design-Bid-Build (DBB);
- Design-Build (DB);
- Design-Build-Operate-Maintain (DBOM); and
- Design-Build-Finance-Operate Maintain (DBFOM).

The traditional project delivery method TxDOT utilizes is the DBB process where the design and construction of the facility are conducted separately and sequentially. As a result, the DBB process is divided into a two-step delivery process involving separate phases for design and construction. TxDOT (or a Developer entity in this particular case), not the construction contractor, is solely responsible for the financing, operation, and maintenance of the facility and assumes all design risks. The design is performed by an engineering consultant and the procurement process is based on negotiated terms (typically, in a public procurement, the most qualified engineering firm). Award of the construction contract is based on the lowest responsible bid price.

The DB form of project delivery is a system of contracting whereby one entity performs both engineering and construction under a single contract. Under this arrangement, the design-builder warrants to TxDOT that it will produce design documents that are complete and free from error (design-builder takes the risk). The selection process under DB contracting can be in the form of a negotiated process, or a competitive process based on some combination of price, duration, and technical proposal.

Under the DBOM form of project delivery the contract team is responsible for design, construction, operation, and maintenance of the facility for a specified period of time. Payment beyond project completion is predicated on meeting certain prescribed performance standards relating to physical condition, capacity, congestion, and/or ride quality.

Adding a project finance component to the DBOM form of delivery creates the DBFOM method (or, concession, as the Concession Facility is being procured). All characteristics of the DBOM delivery method are maintained. Additionally, the responsibility to locate and allocate project finance sources is assigned to the Developer with some assistance from TxDOT when there is application of public funds. The Developer is then reimbursed by project toll revenues and/or by availability payment based on contractual performance standards. The added risk placed on the Developer is offset by potential project profit incentives if the facility is efficiently managed and has wide public acceptance through ridership.

All types of contracts (DB, DBB, DBOM and DBFOM) can be awarded through competitive procurement or through negotiated process between TxDOT and the private sector. In DBOM or DBFOM it is possible that competitive procurement could be a part of the contract.

Each of these delivery methods has benefits and drawbacks and they are not appropriate for all types of projects. Each would be evaluated against a mutually defined list of key Project factors. Weight can be added or subtracted from the factors for each Segment, as the individualized Segments may themselves all have the same implementation goals. In very general terms, key project factors are described below:

Asset Factors – Factors directly attributable to the transportation asset delivered

- Time Savings – A measurement from project inception to Segment opening date
- Cost Savings – Based on the project design and construction cost
- Quality – Factors such as ride quality and longevity of constructed elements

Business Factors – Factors relevant to the financial performance and potential self-sustainability of the Project

- Usage of Private Funds – The potential for non-traditional / innovative funding sources is factored.

- Synergies – Developers have a longer term view that allows optimization of the overall process, as opposed to that from independent design and build contracts. Also, large Developer entities may have subsidiaries that enhance overall project development with individualized expertise focused on a long term view of the asset.
- Private Sector Innovation and Efficiencies – Private companies are incentivized to create value through asset management and project performance generating profits and desired return on investment.
- Risk Transfer Capability – Shift of major risk elements (e.g. construction cost/schedule, traffic, financing, operations and maintenance) to the private sector can significantly incentivize a public entity to consider alternate delivery methods.

Contractual Factors – Factors solely based on the agreement between contracting partners

- Contractual Complexity – Increased risk by the private sector generates the need for a more complex contractual structure to address the various public and private business terms.
- Short Term Contractual Flexibility – Shorter terms allow flexibility to the public sector to modify their transportation or contracting policies on a more frequent basis.
- Long Term Contractual Stability – Longer-term contracts allow for optimization of a whole life commitment to design, finance, operate and maintain an asset.

Ultimately, a much more detailed matrix evaluating the aforementioned delivery methods against the characteristics of each Segment will be created during the ISOW. Specific prioritization concepts that are envisioned to be the most important driving factors of Segment development are described in more detail in Section B.5.

The Developer has a tremendous amount of flexibility in the structure of the payouts generated from a potential Segment DBFOM lease. Payouts would be contractually stipulated to best fit the long-term needs of TxDOT. The options can vary from a large upfront payment to long-term payments based on revenue sharing, or a combination of both. A large upfront payment is typically beneficial if an existing infrastructure debt or perpetually under-funded transportation budget are becoming a burden. The exact destination of the funds, however, could possibly be made available to for use on other transportation projects. Each situation is completely unique in the way a lump-sum payment is disseminated. This would likely not be a solution utilized on the NTE Segments as it will be the intention to keep available funds within the corridor. Each Segment's FIP will ultimately detail the nature of concession payment usage (if deemed feasible).

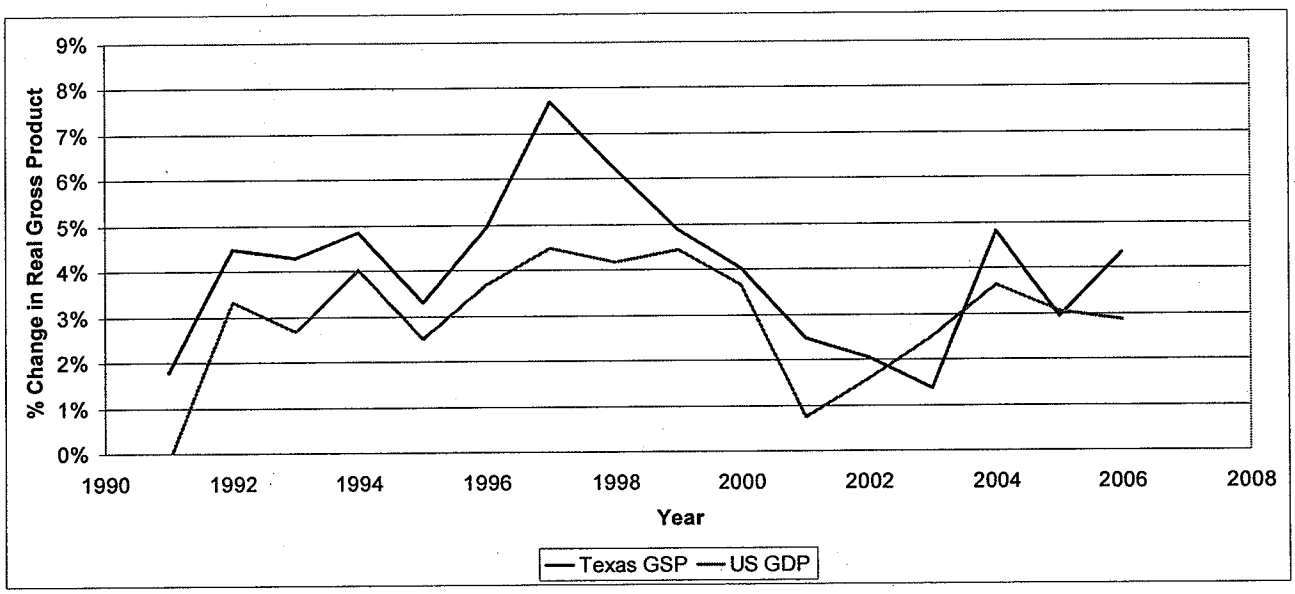
Revenue sharing could also be a portion of a particular Segment's contractual agreement. The Developer could potentially utilize this financing toward the development of other Segments.

B.1 Key Parameters and Assumptions Report

B.1.1 Texas' Role in the National Economy and Global Markets

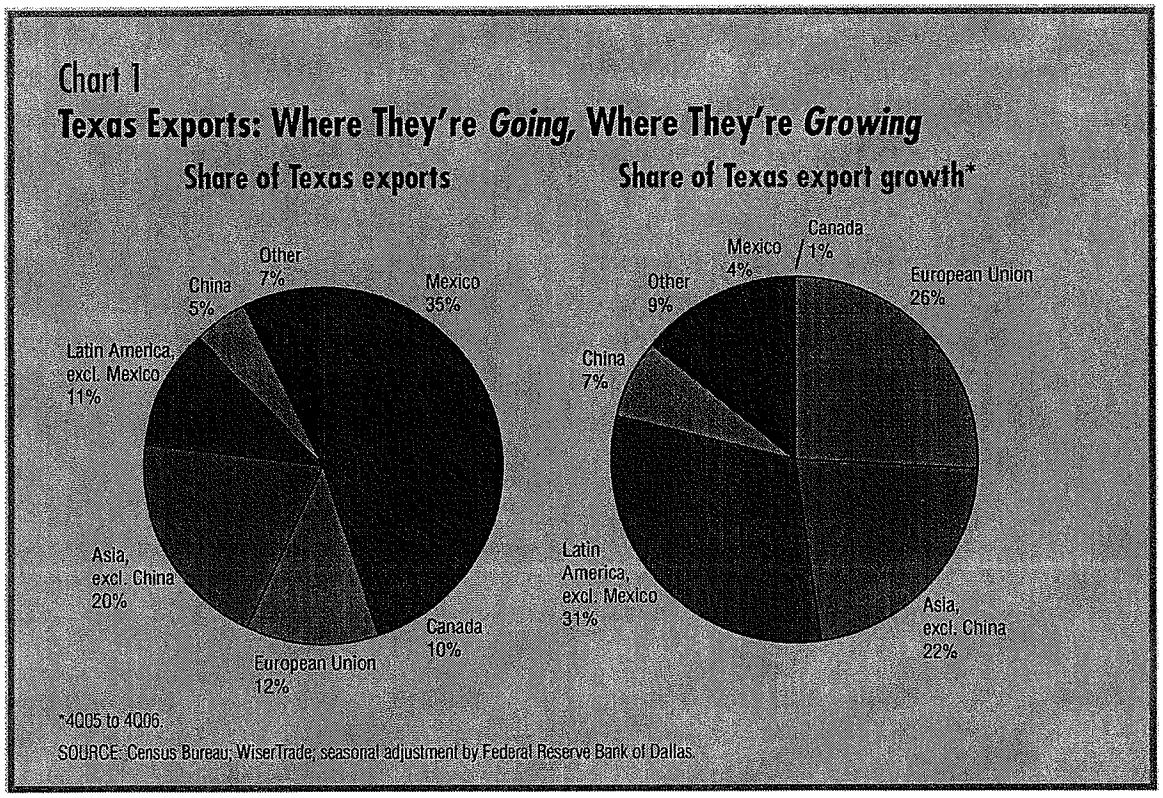
Overall, Texas' role in the global marketplace will only grow over time, as the economy continues to move toward higher value-added production and services. The transformation of Texas from a center of commodity production to a place that emphasizes adding value through the application of knowledge and technology is virtually complete. Until recently, basic products such as food and energy were the primary goods produced in Texas, and purchases tended to be the more sophisticated manufactured goods. That trend as been turned upside-down in recent years, as Texas has become a center of research and advanced technology manufacturing. With this shift in the State's economy, Texas has been able to grow faster than most states. Figure B-1 illustrates this growth of the Texas economy, showing GSP for Texas nearly outperforming the GDP of the U.S. since the early 1990s.

Figure B-1: Texas and U.S. Real Growth in Gross Product



In the process, Texas' economic linkages with the rest of the world have grown stronger, both in terms of integrated production on the Texas-Mexico border and through international trade. For example, most estimates suggest that about 80 percent of NAFTA-related traffic flows through the state and Texas exports of goods overseas during 2007 totaled more than $150B, the highest level in the U.S.

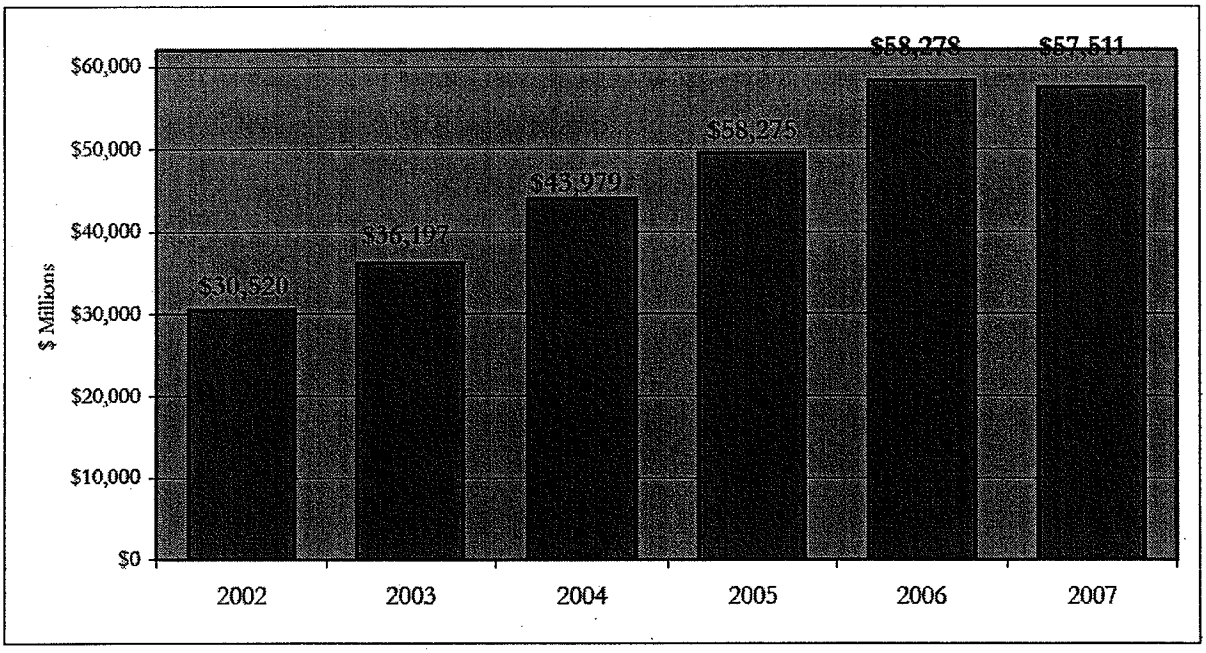
Figure B-2: Texas Exports



Texas' top value-added exports are computer and electronic products, chemicals, industrial machinery, and transportation equipment. Texas' NAFTA trading partners, Mexico and Canada, account for approximately 45 percent of the total. However, as shown in Figure B-2, roughly 60 percent of Texas' expected export growth is to Latin America and Asia.

The DFW Metroplex alone accounted for $1.3B in trade with NAFTA countries and more than $57B in overall trade in 2007, as shown in Figure B-3. In fact, the gross product of DFW was $315B in 2007 – 12th largest among metro economies around the world.

Figure B-3: DFW International Trade - 2002-2007



Source: USA Trade Online

The need for highly efficient movement of goods and people is consistent with the nature and scope of Texas' (and, correspondingly, the DFW Metroplex's) role in the modern economy. As both continue to build their export base with non-NAFTA countries such as China, the ability to send and receive goods will be a critical factor in expanding trade and generating new business opportunities.

B.1.2 Demographics

Over the next 35 years the population will age, as the current one in ten Texans over the age of 64 will climb to 16.4 percent. Despite the absolute aging of the population, Texas will become younger than the nation as a whole, as the U.S. population is expected to age even more rapidly. At the same time, the forecasted purchasing power and disposable income is expected to grow.

Additionally, the DFW Metroplex is growing even more rapidly than Texas as a whole. The most relevant population cores of Dallas and Tarrant County have had very strong and consistent historical population growth. Also, Denton County, located north of Fort Worth, has shown strong growth from a relatively small base. This county is expected to contribute significantly to north-south travel demand in the NTE corridor between Denton and Fort Worth.

U.S. Census Data

Between 1970 and 2007, population in the nine counties within the DFW Metroplex region has grown at an average of 2.6 percent per annum according to U.S. Census Bureau 2007 data. The overall population is expected to top nine million by 2030.

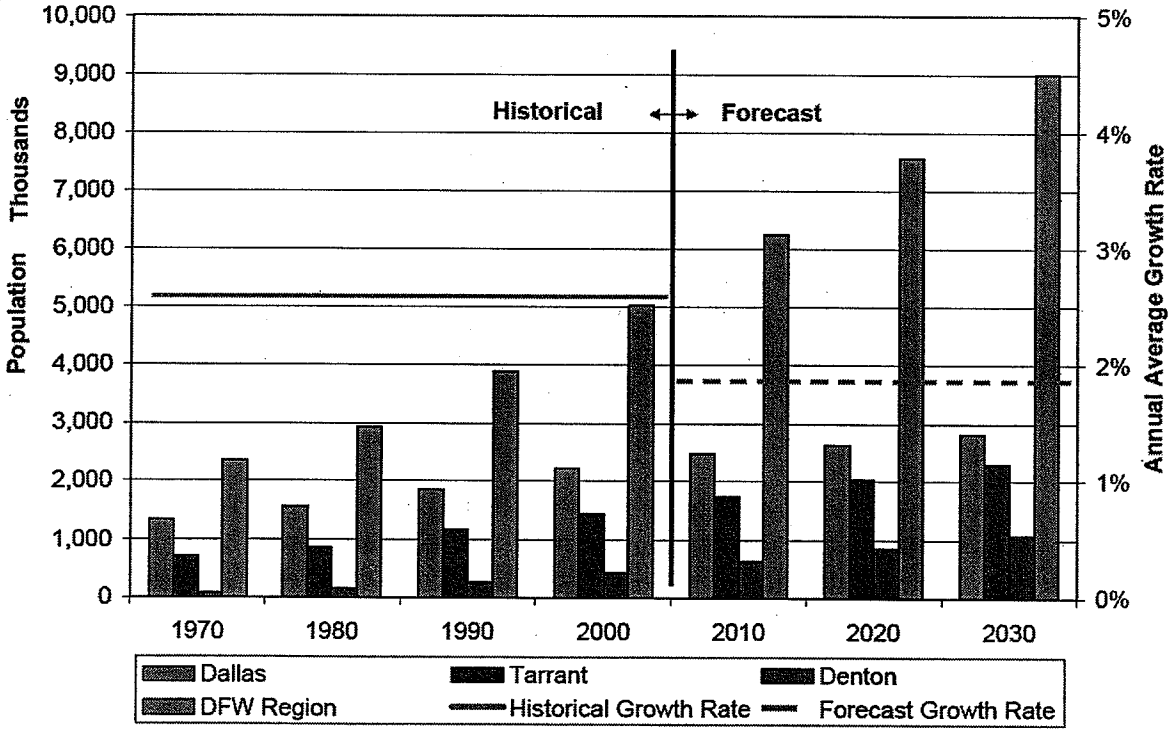
The 2007 population of Tarrant County was 1.7 million people (based on July 2007 U.S. Census Bureau estimates); Dallas County boasted a population approaching 2.4 million people; and Denton County had an estimated population of around 0.6 million; The remaining counties comprising the Metroplex area—including Collin, Parker, Johnson, Kaufman, Rockwall and Ellis—had a combined population of just under 1.3 million. As such, the NTE Project provides a critical connection to roughly 78 percent of the population of the rapidly expanding population base.

NCTCOG Data

Several institutions and organizations within the Texas area publish population forecasts. The North Central Texas Council of Governments (NCTCOG) is considered the most relevant set of forecasts for the study area in relation to developing traffic forecast projections. NCTCOG utilizes the Texas State Data Center (TSDC) county-level forecasts, in conjunction with other information sources and forecasts—including local decision-makers such as city and county authorities, transportation and transit providers—to develop forecasts to the MPO (Metropolitan Planning Organization) level.

The NCTCOG population trends and forecasts for population growth in the relevant nine DFW Metroplex counties in the vicinity of NTE are shown in Figure B-4.

Figure B-4: Projected DFW Population Growth

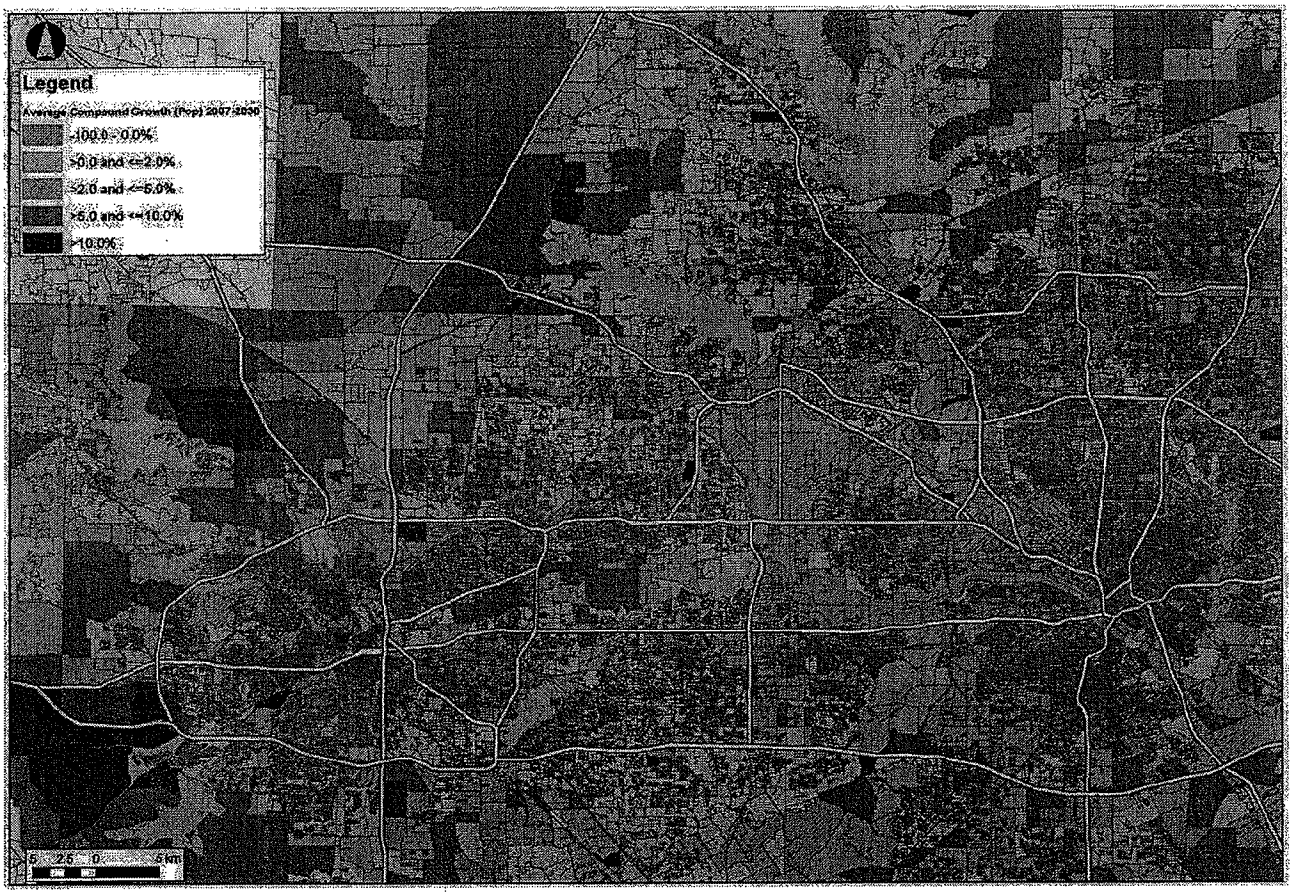


Source: Historical: U.S. Census Bureau; Forecast: NCTCOG (DFW Region = 9 counties)

The NCTCOG forecasts for population growth are shown by Traffic Analysis Zone (TAZ) in Figure B-5. The figure highlights the relevant growth pockets that are anticipated to grow significantly over the next 25

years. As can be easily seen from the yellow and orange shading in the northern portion of Tarrant and southern portion of Denton Counties, a significant share of overall growth is immediately adjacent to the IH 35W portions of Segments 2-4.

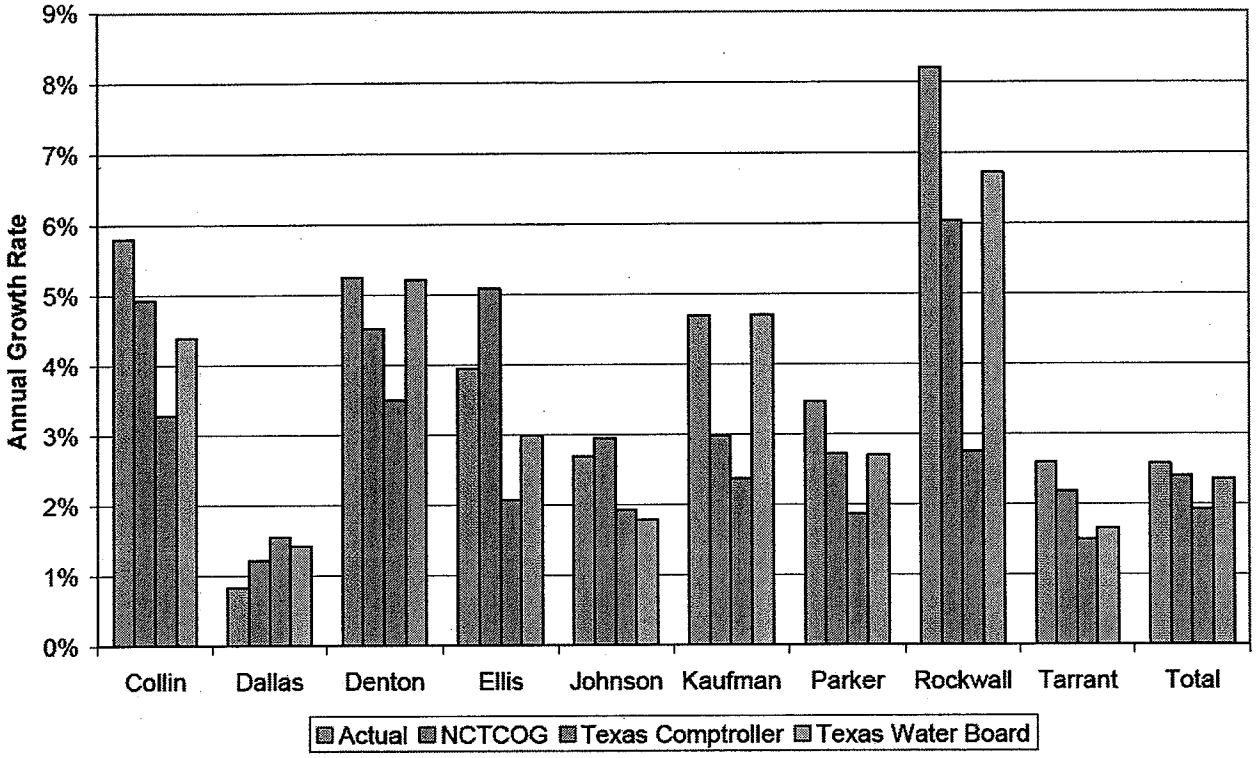
Figure B-5: DFW Population Growth Forecasts by TAZ 2007 - 2030



U.S. Census population estimates have been compared to an interpolated value between the 2005 and 2010 NCTCOG forecasts to determine whether the forecasts are in line with the observed data available. This comparison is summarized as Figure B-6 and further details are provided in the Traffic and Revenue Forecasts in Appendix E.2.

The comparison highlights that the NCTCOG forecasts represent the best estimate between 2000 and 2007 of the observed population growth rates for the nine counties. The comparison also demonstrates that the observed (actual) population growth has generally outstripped all forecasts (including NCTCOG) and that the population forecasts produced by NCTCOG may already be conservative compared to observed growth for some counties.

Figure B-6: DFW Growth Rate Comparisons 2000 - 2007



These sources, along with the TSDC, The Statewide Analysis Model (SAM), the Office of the State Demographer and the Texas Water Development Board, will be utilized as sources of crucial information to track and project Texas' population demographics for NTE over the duration of the CDA.

Special Trip Generators

Some key developments leading to the forecast growth in population and employment in the immediate vicinity of NTE are discussed as follows:

Dallas Fort Worth (DFW) International Airport – DFW International Airport is a major traffic generator within the study area. In 2007, it accommodated more than 685,000 aircraft movements (operations), 59.8 million passengers and carried nearly 800,000 tons of cargo.

The airport has a significant amount of land available and zoned for development. These development opportunities include:

- **Bear Creek Office Park:** 1,800 acres located on the southwest side of SH 183 and SH 360. There are large corporate campus sites available for development, incorporating recreational facilities including two 18-hole championship golf courses.
- **Passport Park:** a 600-acre mixed-use development area. It is a hybrid development located near the airport's south entrance. Mixed-use development is planned to accommodate multiple

"big box" retail anchors, junior anchors, specialty retail and restaurants. Industrial/warehouse and garden office development opportunities are also envisioned. Approximately 125 acres is available for development, located on the corner of Valley View Lane, with good access to SH 183.

- **Southgate Plaza:** a 32-acre mixed-use zone on the southeast side of the airport located in front of the Consolidated Rental Car Center. The 30,000 square foot development will provide a mix of commercial, retail and office space, a four-story office complex, limited-use hotel and dine-in and fast food restaurants.
- **Belt Line Station:** A future DART light rail line stop, this 23-acre mixed-use commercial development is located on the southeast corner of Belt Line Road and Valley View Lane. This will be a transit-oriented development with retail and office use located near the high-density, pedestrian-oriented intermodal station.

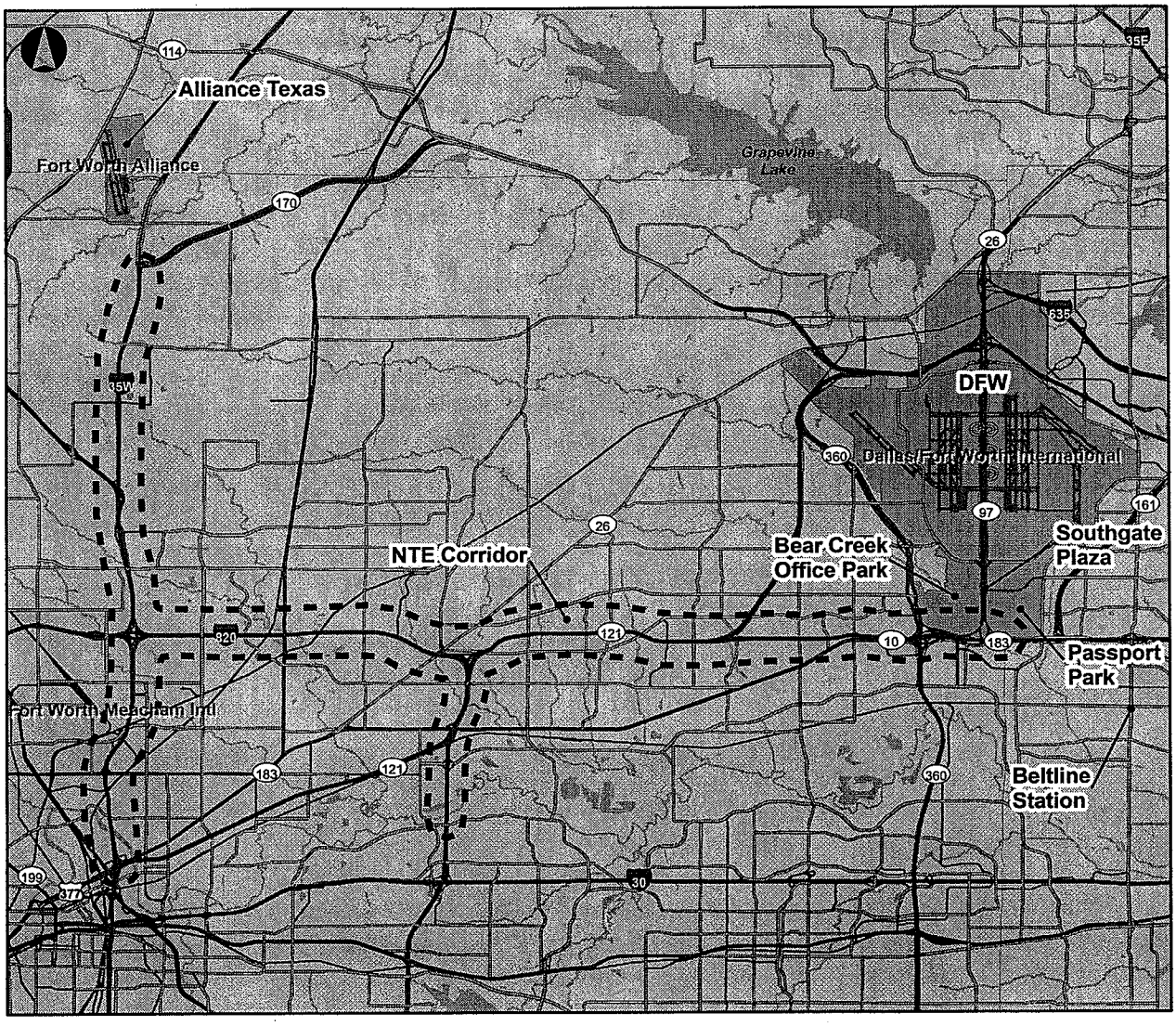
AllianceTexas Development – AllianceTexas is a 17,000-acre master-planned, mixed-use community located north of Fort Worth. The AllianceTexas development is one of the major economic drivers in North Texas. The development is multi-jurisdictional with boundaries that fall within four cities (Fort Worth, Haslet, Roanoke and Westlake), two counties (Denton and Tarrant) and two school districts (Northwest Independent School District and Keller Independent School District).

AllianceTexas developers report that the community now houses more than 170 companies. These firms have invested more than $5B in the development. The anchor of the AllianceTexas community is the Fort Worth Alliance Airport, the world's first purely industrial airport. Since its establishment in 1989, AllianceTexas has grown into one of the nation's preeminent logistics and transportation hubs.

With the industrial and commercial base now well established, future growth in the community is focused on destination retail and entertainment development, combined with strong residential growth. The overall scale of the AllianceTexas community and the anticipated buildout of this new residential / retail / entertainment initiative represent important factors in considering both the level and distribution of future demand along NTE. Since 1990, the development has added 27,000 jobs in 25 million square feet of commercial space. By contrast, residential construction in AllianceTexas is reported to just 6,700 homes. With commercial / industrial development disproportionately greater than residential development, and a roster of well-paid jobs, AllianceTexas has been drawing labor from the surrounding area and supporting residential growth in the neighboring communities with good proximity to Alliance.

With greater residential development now slated for AllianceTexas, there will be a growing residential base north of Fort Worth with a possible interest in traveling to downtown for shopping and entertainment. Dual-income households with one worker in Fort Worth and one in AllianceTexas may select a household location along NTE to minimize the joint commuting time.

Figure B-7: NTE Special Trip Generators



B.1.3 Federal and State Fiscal Status and Budget Trends

The role of the public sector in funding basic infrastructure is changing, with a greater emphasis on user fees, public-private partnerships, and alternative financing mechanisms. Public sector funding of basic infrastructure—including the transportation network—has been declining for some time, as the State of Texas spends proportionately less today on highways than it did 20 years ago. For example, the Comptroller's Office reports that highway, maintenance and construction as a single line item accounted for 11.2 percent of State expenditures during fiscal 1983. By fiscal 2003, highway maintenance and construction had fallen to 8.2 percent; and in 2007 another percentage point was lost with expenditures totaling only 7.2 percent.

These are indicative trends to what is happening throughout the country. The situation has gotten so precarious that the solvency of the federal Highway Trust Fund is now threatened. The Fund, primarily sourced through federal gas tax receipts, collected $31 billion in revenue between October 2007 and September 2008. This is $3 billion less than it collected the previous year. Meanwhile, federal transportation spending increased by $2 billion.

A bill was recently passed to temporarily curtail the federal funding gap when an $8B transfer from the general fund to the Highway Trust Fund was signed. This infusion will keep the Fund solvent through the end of the 2009 federal fiscal year, but it is not a long term solution. More funding sources and more efficient project development must be components of the next federal surface transportation policy reauthorization to maintain an adequate level of transportation development in this country.

As these public funds have become more and more scarce for highway maintenance and construction, the focus has shifted toward alternatives to traditional general obligation debt financing of basic infrastructure, with a greater emphasis on tolls, tax-increment financing, development fees, and other alternative financing structures.

The implication for NTE is obvious, as a variety of financing mechanisms and sources will likely be employed. With the recent funding and budgetary challenges at both the State and Federal levels, utilizing every type of project delivery that the private sector offers becomes an extremely important component of building and maintaining transportation infrastructure in Texas.

B.1.4 Social and Urbanization Trends

The physical character of Texas communities continues to evolve. The traditional model of community development is changing. Urban areas in Texas have long been characterized by relatively low density, as abundant land fostered spread-out cities that relied almost exclusively on the automobile. In recent years, the rate of population and traffic growth has outstripped the road system in many areas, leading to increased congestion. This has consequences. The *2007 Urban Mobility Report* by the Texas Transportation Institute (TTI) showed that Texans in major metropolitan areas wasted $6.2B during 2005 because of traffic congestion. Therefore, congestion relief must remain an integral component as urban areas expand and density continues to grow.

In the past decade, many communities have been revitalizing Central Business Districts (CBDs) with more dense dwelling units, new high-rise condominiums, warehouse loft developments and townhomes. Both Dallas and Tarrant Counties have made significant effort toward increasing population density with urban revitalization projects. From Sundance Square to the proposed developments along the Trinity River in both counties, considerable strides are being made. Even with these changes in urbanization to help combat commute times, the shear volume of population and employment growth continues to increase urban congestion. With the urbanized areas further expanding geographically, the limits of congestion expand as well.

With this increased congestion, acceptance of user charges increases. This includes individuals in their daily commutes, as well as commercial and freight users whose time value of money is a key component to their business model. As trade from NAFTA and inland multimodal hubs in the Metroplex increases, the

amount of freight traffic is expected to increase by an average of 3.5 to 4 percent per year, likely increasing the use of managed lanes as a viable means of avoiding delay and loss of efficiency.

B.1.5 Economic Development in the Corridor

Localized Impacts to Facility Implementation: The economic development impacts are implicit in the trends discussed in the previous sections. The opportunity and need for Texas to leverage the continued upgrade of its network infrastructure is crucial to the future success of the State's economy. In general, these effects fall into two broad categories:

- More efficient movement of people and products, which have positive effects on costs and,
- An improved "asset base", helping to attract more companies and people, further enhancing economic development.

Existing Urbanized Areas in the Corridor: When NTE Segments are developed in urbanized areas, the additional capacity will help reduce congestion and improve trip reliability, especially through the use of congestion pricing. These are two key issues to the business community. This helps shift wasted private resources due to congestion to productive uses and will allow for the development of manufacturing and distribution centers adjacent to NTE.

Potential for Increased Demand in the Corridor: As more users are attracted to NTE, the demand for ancillary facilities will also increase. Businesses such as service stations, restaurants and shopping centers will see increased demand, thus improving the economy of the cities surrounding the Segments. NTEMP firmly believes that the local private sector developers should participate in these improvements to the local economy, and will not monopolize the economic generator that NTE will become.

Potential for Revenue-Sharing Partnerships: As all of the above aspects lead to an improved economy, there is more opportunity for revenue-sharing between the private sector and the State. "All boats rise" as the State's goals for NTE are realized. Specifically, the additional business identified from corridor development will deliver new tax revenue to the State.

B.1.6 Utility of Data

As discussed previously, the economic and demographic data will be utilized to help verify NCTCOG-forecasted modeling along the NTE Corridor. NCTCOG has decades of experience in projecting the future of the DFW Metroplex. NTEMP will draw upon this expertise to the maximum extent possible. NTEMP will use all compiled data to support the demand projections developed in the MDP. This entire process will assure both TxDOT and NTEMP that when Segments are determined Ready for Development they can easily make it through all tasks required to achieve financial close and delivery.

B.2 Level and Scope of Participation with TxDOT in Coordination with Other Agencies

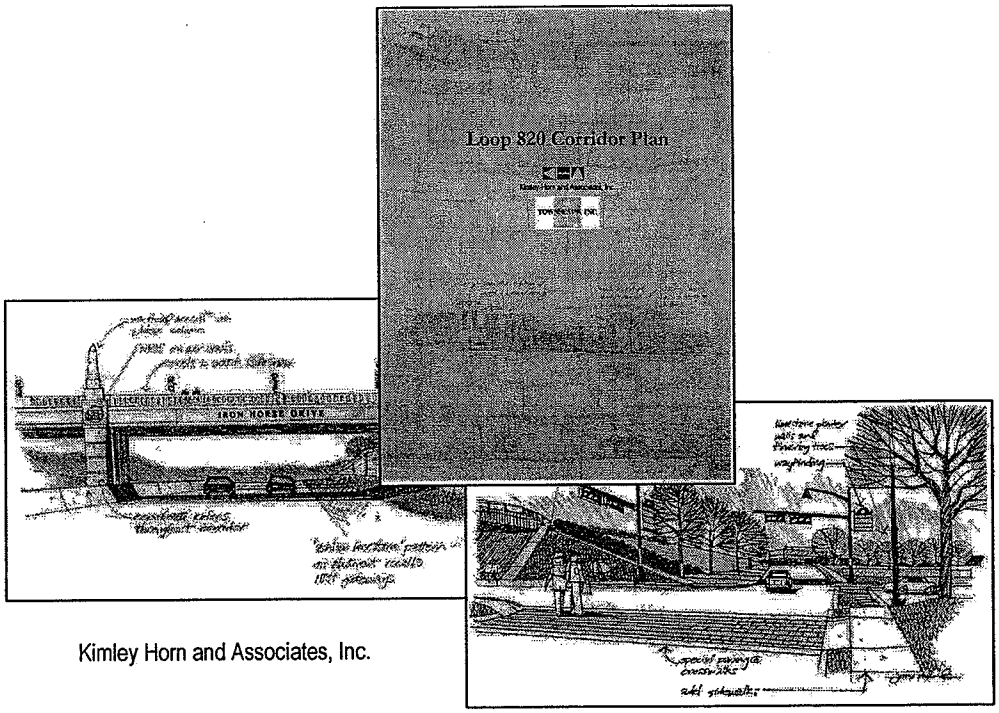
The key to advancing the Project is based on the simple philosophy of early and continuous involvement of those entities affected by the Project (including TxDOT itself). NTEMP recommends that the first step in accomplishing this is to identify the key stakeholders. NTEMP will take TxDOT's lead on the level and scope of participation between NTEMP and third party entities identified as key stakeholders. These entities include, at a minimum:

- Local Government:
  - City of Fort Worth
  - City of Blue Mound
  - City of Haslet
  - Haltom City
  - City of North Richland Hills
  - City of Richland Hills
  - City of Hurst
  - City of Bedford
  - City of Euless
  - Tarrant County
  - Dallas County
- Dallas/Fort Worth International Airport
- AllianceTexas
- Union Pacific Railroad
- Federal and State Regulatory:
  - U.S. Department of Transportation (US DOT)
    - Federal Highway Administration (FHWA)
    - Federal Railroad Administration (FRA)
    - Federal Transit Administration (FTA)
  - Federal Emergency Management Agency (FEMA)
  - U.S. Environmental Protection Agency (US EPA)
  - Texas Parks and Wildlife Department (TPWD)
  - Public Utility Commission of Texas (PUC)
- Utility providers
- North Texas Tollway Authority (NTTA)
- Regional Planning
  - North Central Texas Council of Government (NCTCOG)
  - Dallas-Fort Worth Regional Transportation Council (RTC)
- Local Transit Providers:
  - The T
  - DART
- Hillwood and Other Private Development Entitles
- Surrounding neighborhoods / neighborhood associations
- Affected landowners and business owners
- Potential NTE customers
- Advocacy Groups:
  - Dallas-Fort Worth Area Partners in Mobility
  - The Tarrant Regional Transportation Coalition

Over the past few months, NTEMP has spoken with TxDOT-approved local stakeholders along the Facility. These discussions have fostered great understanding regarding local needs and considerations for improving quality of life along the corridor. NTEMP stands ready to lead the necessary interaction with these and other Third Parties. The Team also understands the sensitivity of private roadway development in Texas and in particular within the DFW Metroplex.

Each entity will be contacted to inform them of the development of NTE. Although there has been a great deal of recent attention drawn to CDA projects through public meetings and press releases, all will be contacted initially to make sure that they are aware of the Project and to determine the appropriate key contact and decision-makers. This will be done through written communications with response cards and follow-up telephone calls.

NTEMP has met with the leaders of cities along the NTE Corridor and staff from Tarrant County. In addition to working with these cities adjoining the Concession Facility on their vision for developing the Corridor, NTEMP will work closely with the cities along Segments 2, 3 and 4 to help fulfill their desires for the "look and feel" of the final delivered Segments.



Kimley Horn and Associates, Inc.

To date, there has only been limited interaction between private roadway developers and the entities along the NTE Corridor. The public media coverage has been dominated by perceived negative aspects of roadway development by the private sector. The MDP process for NTE allows a viable conduit for discussion between NTEMP and the public and private entities with vested interest in the Corridor. These discussions will be focused on a singular theme: ***Delivering improved mobility on the NTE Corridor as quickly as possible.*** It is just that simple.

There are two components to expediting delivery of NTE Segments:

- First is identifying and removing any "roadblocks" to delivering the Corridor. This includes NTEMP working with all parties on items such as regulatory issues or long lead-time items to compress the

potential delivery schedule as much as possible. Potential additional environmental studies, such as archeological studies, are an example of tasks that the State could undertake in advance to help clear the processes early.

- Second is working with those who deal with the NTE Corridor on daily basis to identify and quantify potential partners that would help pull the project along. For example, if large subdivisions or significant new employers not contemplated in previous traffic demand modeling are moving into the area, it is possible to recognize their positive impact to the revenue stream of the Corridor and accelerate delivery.

B.3 Schedule and Progress Reporting Standards

NTEMP will create a Project Baseline Schedule for all ISOW activities within 60 days of NTP1 (immediately following the execution of the concession CDA). The final ISOW Project Baseline Schedule will be modified from the Preliminary ISOW Schedule (presented as Figure B-9) beginning at Project NTP1. It will be further developed from this preliminary version and will be both cost and resource loaded. All activities will be logically linked and none shall operate independently. The preliminary Work Breakdown Structure (WBS) dictionary shown as Figure B-8 establishes the work categories envisioned for the Project Baseline Schedule activities. The preliminary schedule was developed based on the level of information known at the time of this proposal and the traffic, revenue and cost studies performed to date. The schedule provides for continuous informal "over-the-shoulder" reviews during draft document preparation, shorter formal TxDOT reviews for revised deliverables, and full CDA-stipulated 20 working day reviews for the Milestone Deliverables. This three-pronged review allows for schedule compression during the longer review periods. Overlap in these stages (typically at the end of each Milestone) will facilitate a timely total ISOW period; while the redundancy of review will mitigate the potential for significant revisions to Milestone deliverables. Adhering to the draft, revised, final format of deliverables will be paramount to maintaining a consistent ISOW schedule.

The WBS dictionary has been provided without the repetitive submittal and review tasks to streamline and better highlight the primary Milestone deliverables. The WBS is currently provided to four levels. It will be expanded to five levels during Milestone 2.

During the CDA-estimated18-month life of the ISOW, the Project Baseline Schedule will be monitored monthly to insure that milestones (both project and developer) are properly progressing. NTEMP Major Participant's Cintra and Earth Tech prepared and updated the monthly TTC-35 schedule according to requirements very similar to NTE Segments 2-4 Exhibit G in the TTC-35 CDA.

It is anticipated that the schedule will be monitored with a plan similar to that which was utilized on TTC-35.

A status component of the Project Baseline Schedule, the Project Schedule Update (PSU), will likely be utilized to monitor ISOW progress. This schedule is a copy of the Project Baseline Schedule created when it is accepted and before the first reporting cycle ends. Initially it will cover only the ISOW period. It will be subsequently expand to include all Segments as the Segment Implementation Schedules are developed in the MDP process. The PSU schedule data date moves forward to keep with the passage of time. Planned activities are given actual starts and remaining durations, percentages complete and actual finishes as they

occur. The data date will always be the first day of the month with progress status through the end of the previous day (the last day of the just ended month). Also, any activities that are important for visibility to management that were not included in the Project Baseline Schedule can be added to the PSU. A determination will then be made as to whether or not they should be added to a revised Project Baseline Schedule.

A Primavera Project Manager 4.0 for Engineering and Construction (P4 e/c) file (.xer extension) electronic copy of the monthly PSU file will be included with a schedule commentary Microsoft Word file in a Monthly Status Report (MSR). The MSR may have other informational sections in addition to the commentary itself, as needed. The schedule commentary is used to apprise Project Principals (both NTEMP and TxDOT) of the project schedule status, potential and actual schedule impacts, and key schedule-related decisions. To be useful as a management report it will be timely, accurate, and succinct, and it will include clear discussion of required actions to resolve any schedule-related issue. Since the same text will usually be included in internal and external reports, it will be factual without offering gratuitous opinions and abstractions open to unreasonable interpretation. A third component of a monthly schedule reporting package is a Schedule Impact Report (SIR). The SIR is a succinct report that lists schedule activities that have become, or have the clear potential to become, critical. The SIR will have the following columns:

- Impact ID
- Impacted work/activity description, cause and effect
- Weeks impacted
- Actions
- Dates including planned and actual
- Action by (responsible party)

The Segment Implementation Schedule will be a deliverable component of the MDP. Upon TxDOT acceptance of the MDP, NTEMP will carry out project scheduling and reporting in accordance with CDA Exhibit G. The schedules will be based on the Critical Path Method; clearly displaying progress for ongoing and projected activities; and relay actual start/finish dates, percentage complete and days remaining. This schedule will be monitored quarterly; all changes will be submitted for written approval from TxDOT.

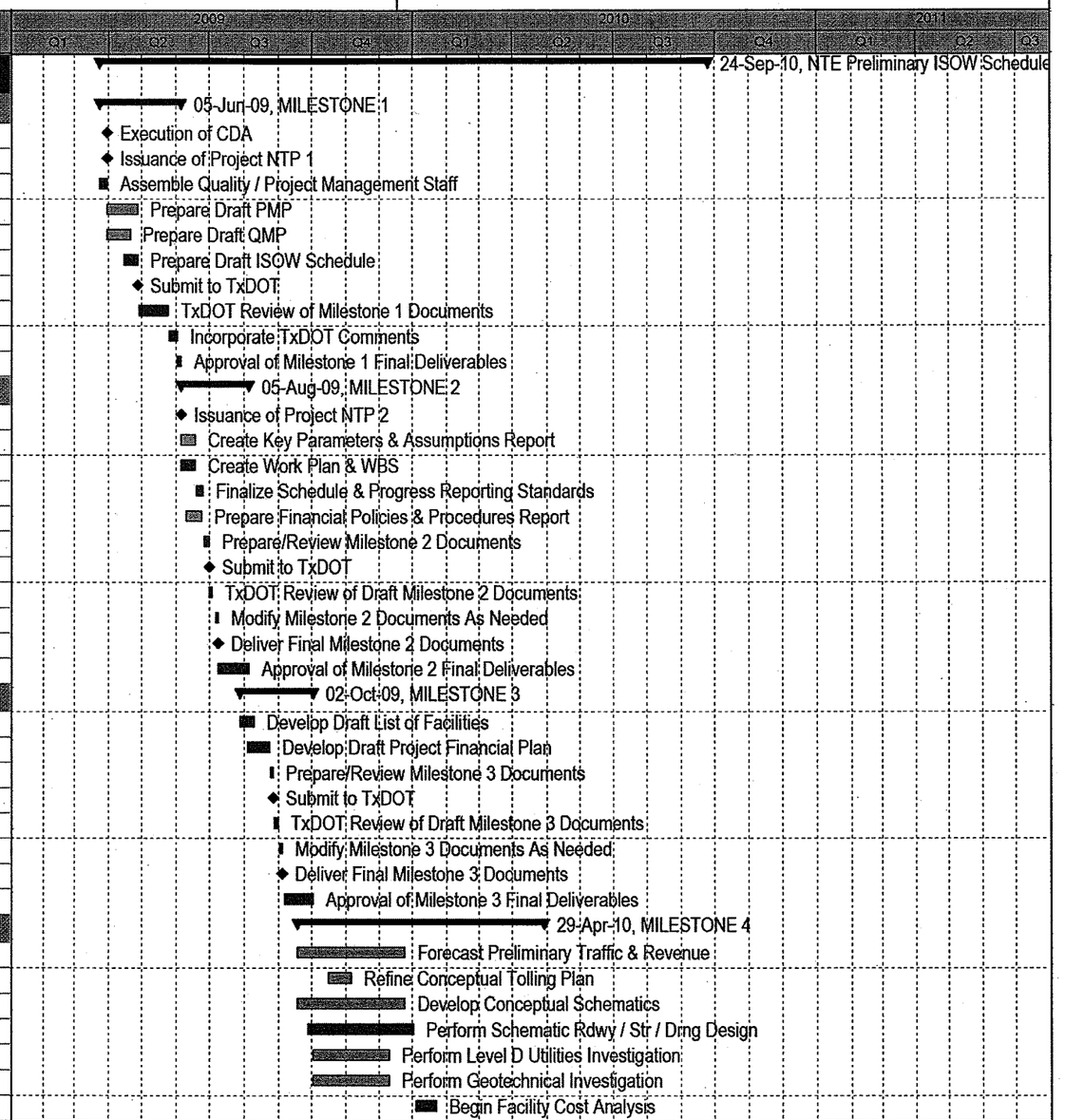
Figure B-8: Preliminary ISOW and Typical Segment WBS

NTE PROJECT WBS DIRECTORY		
WBS Element	**Title**	**Description**
02	NTE ISOW	This Project is comprised of the initial Scope of Work Required to create the Master Development and Master Financial Plans (MDP and MFP) to detail the development strategy of North Tarrant Express Segments 2-4
02.01	Milestone 1	
02.01.01	Project Management Plan (PMP)	This element includes the plan to manage, develop and implement the Project and achieve the Project requirements
02.01.02	Quality Management Plan (QMP)	This element includes the plan to manage quality control and quality assurance while delivering the Project
02.01.03	ISOW Schedule	This element includes a set of standards for reporting schedule and progress for the entire Project performance period in accordance with CDA Exhibit G
02.02	Milestone 2	
02.02.01	Key Parameters and Assumptions Report	This element details all segment functional and connectivity requirements and provides the key assumptions aiding in the development of the MDP. Parameters and assumptions will be both technical in nature and overall corridor broad concepts
02.02.02	Work Plan and Work Breakdown Structure	This element details all procedures for coordination between the MDP team and other project stakeholders
02.02.03	Schedule and Progress Reporting Standards	This procedure defines the steps, methods, and format by which the Project will develop and maintains periodic updates to the ISOW and Project Baseline Schedule
02.02.04	Financial Management Policies and Procedures Report	This report defines the financial policies and reporting procedures necessary to maintain a successful MDP/MFP.
02.03	Milestone 3	
02.03.01	Draft List of Facilities for Project	This element includes determination of all details and characteristics of each segment
02.03.02	Draft Project Financial Plan	This element includes refinement of all finance sources and revenue generation opportunities from the Conceptual Financial Plan
02.04	Milestone 4	
02.04.01	Preliminary Project Traffic and Revenue	This element includes preparation of Traffic and Revenue (T&R) forecasts using the best available regional modeling information per Exhibit D Task F of the CDA
02.04.01.01	Refine Conceptual Tolling Plan	This element includes adding more detail to the Proposal Tolling Plan.
02.04.02	Conceptual Schematics, Plans and Layouts of Facilities	This element includes preparation of diagrammatics suitable for segment cost quantification including roadway elements, ROW, utilities and access management
02.04.02.01	Schematic Roadway, Structural & Drainage Design	This element includes preparation of roadway, structural and drainage design schematics.
02.04.02.02	Level D Utilities Investigation	This element includes the CDA-required utiliy investigation.
02.04.02.03	Geotechnical Investigation	This element includes the CDA-required geotechnical investigation.
02.04.03	Facility Cost Analysis	This element includes a per-segment breakdown by type and source of cost distributed over applicable development period per Exhibit D Task H and Exhibit H, Task B of the CDA
02.04.03.01	O&M Management Plan	This element includes adding more detail to the proposal O&M Management Plan.
02.04.04	Project Risk Analysis	This element includes a segment-specific analysis including probability, quantification of magnitude, allocation and strategies to mitigate risk per Exhibit D Task Q of the CDA
02.04.05	ROW Chapter	This element includes an Updated Facility Proforma Analysis as an Attachment to Chapter 14 of the Pre-Complete MDP as identified in CDA Exhibit D
02.04.06	Facility Proforma Analysis	This element includes excel spreadsheets reflective of all funding sources, costs and revenues determined to date. Incorporating both risk management and ROW costs
02.04.07	Facility Integration Plan	This element includes a Facility Integration Plan as with projects identified in the STIP
02.04.08	Draft Facility Funding Sources and Uses	This element includes a comprehensive financial analysis report summarizing the financial characteristics of each segment including the integrated pro-forma analyses (per Exhibit E Task B of the CDA) performed prior to this deliverable
02.04.09	Draft Facilities Report	This element is a comprehensive report summarizing Milestone 4
02.05	Milestone 5	
02.05.01	Phasing & Sequencing Report	This element includes a Phasing and Sequencing Report based on the financial sustainability of each segment and segment-specific market conditions that attribute to each implementation schedule
02.05.01.01	Phasing and Sequencing Prioritization	This element includes the investigation of deliverying Segments 2-4 in a prioritized method.
02.05.01.02	Steps to Close of Finance	This element includes fully articulating all steps required to reach Close of Finance.
02.06	Milestone 6	
02.06.01	Master Financial Plan	This element includes development of the Complete Master Financial Plan (MFP) as the Report with Exhibits as identified in CDA Exhibit E
02.06.02	Master Development Plan	This element includes development of the Complete Master Development Plan (MDP) as the Report with Exhibits as identified in CDA Exhibit D with the MFP included within
02.07	Milestone 7	
02.07.01	MDP Update Procedure	This element includes the document which describes the integration of modifications to the MDP based on due diligence analyses and achievement of update triggers in accordance with the CDA Exhibit D
02.07.02	MFP Update Procedure	This element includes the document which describes the integration of modifications to the MFP based on due diligence analyses and achievement of update triggers in accordance with the CDA Exhibit E
03	Update Work	This element includes the work established in ISOW Milestone 7 for updating the MDP and MFP as determined by update trigger

Figure B-9: Preliminary ISOW Schedule

NTE Preliminary ISOW Schedule | NTE Pre-Dev | 24-Nov-08 18:00

Activity ID	Activity Name	Original Duration	Start	Finish
NTE Preliminary ISOW Schedule		381	24-Mar-09	24-Sep-10
MILESTONE 1		53	24-Mar-09	05-Jun-09
02.000	Execution of CDA	0	31-Mar-09*	
02.001	Issuance of Project NTP 1	0	31-Mar-09	
02.002	Assemble Quality / Project Management Staff	5	24-Mar-09	30-Mar-09
02.01.01	Prepare Draft PMP	20	31-Mar-09	27-Apr-09
02.01.02	Prepare Draft QMP	15	31-Mar-09	20-Apr-09
02.01.03	Prepare Draft ISOW Schedule	10	14-Apr-09	27-Apr-09
02.01.04	Submit to TxDOT	0		27-Apr-09
02.01.05	TxDOT Review of Milestone 1 Documents	20	28-Apr-09	25-May-09
02.01.06	Incorporate TxDOT Comments	5	26-May-09	01-Jun-09
02.01.07	Approval of Milestone 1 Final Deliverables	4	02-Jun-09	05-Jun-09
MILESTONE 2		43	05-Jun-09	05-Aug-09
02.003	Issuance of Project NTP 2	0	05-Jun-09	
02.02.01	Create Key Parameters & Assumptions Report	10	05-Jun-09	18-Jun-09
02.02.02	Create Work Plan & WBS	10	05-Jun-09	18-Jun-09
02.02.03	Finalize Schedule & Progress Reporting Standards	5	19-Jun-09	25-Jun-09
02.02.04	Prepare Financial Policies & Procedures Report	10	10-Jun-09	23-Jun-09
02.02.05	Prepare/Review Milestone 2 Documents	3	26-Jun-09	30-Jun-09
02.02.06	Submit to TxDOT	0		30-Jun-09
02.02.07	TxDOT Review of Draft Milestone 2 Documents	3	01-Jul-09	03-Jul-09
02.02.08	Modify Milestone 2 Documents As Needed	3	06-Jul-09	08-Jul-09
02.02.09	Deliver Final Milestone 2 Documents	0		08-Jul-09
02.02.10	Approval of Milestone 2 Final Deliverables	20	09-Jul-09	05-Aug-09
MILESTONE 3		45	28-Jul-09	02-Oct-09
02.03.01	Develop Draft List of Facilities	10	28-Jul-09	10-Aug-09
02.03.02	Develop Draft Project Financial Plan	15	04-Aug-09	24-Aug-09
02.03.03	Prepare/Review Milestone 3 Documents	3	25-Aug-09	27-Aug-09
02.03.04	Submit to TxDOT	0		27-Aug-09
02.03.05	TxDOT Review of Draft Milestone 3 Documents	3	28-Aug-09	01-Sep-09
02.03.06	Modify Milestone 3 Documents As Needed	3	02-Sep-09	04-Sep-09
02.03.07	Deliver Final Milestone 3 Documents	0		04-Sep-09
02.03.08	Approval of Milestone 3 Final Deliverables	20	07-Sep-09	02-Oct-09
MILESTONE 4		153	18-Sep-09	29-Apr-10
02.04.01	Forecast Preliminary Traffic & Revenue	70	18-Sep-09	24-Dec-09
02.04.01.01	Refine Conceptual Tolling Plan	15	16-Oct-09	05-Nov-09
02.04.02	Develop Conceptual Schematics	70	18-Sep-09	24-Dec-09
02.04.02.01	Perform Schematic Rdwy / Str / Drng Design	70	28-Sep-09	01-Jan-10
02.04.02.02	Perform Level D Utilities Investigation	50	02-Oct-09	10-Dec-09
02.04.02.03	Perform Geotechnical Investigation	50	02-Oct-09	10-Dec-09
02.04.03	Begin Facility Cost Analysis	15	04-Jan-10	22-Jan-10

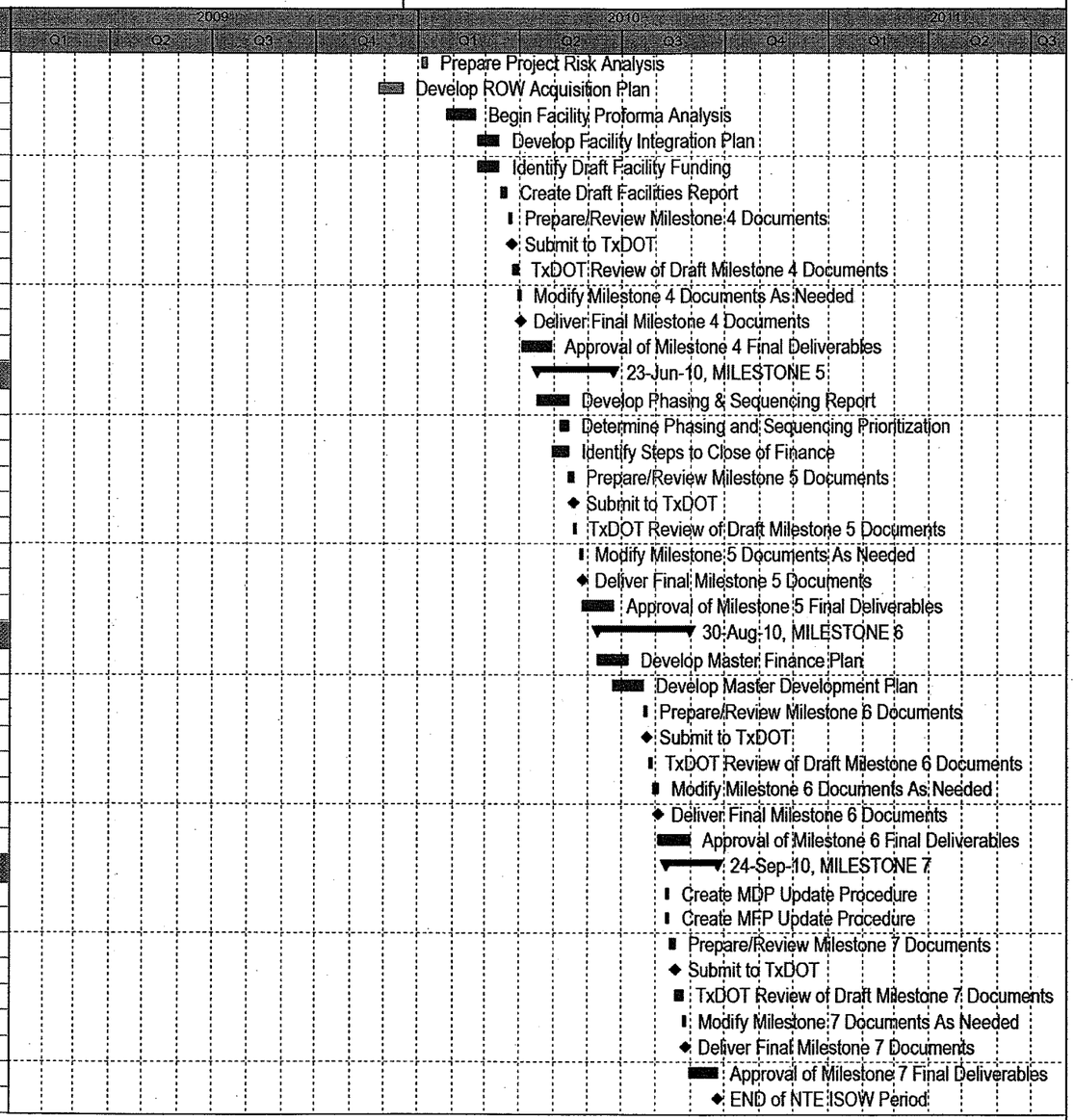


Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone

Page 1 of 2

NTE Preliminary ISOW Schedule | NTE Pre-Dev | 24-Nov-08 18:00

Activity ID	Activity Name	Original Duration	Start	Finish
02.04.04	Prepare Project Risk Analysis	5	04-Jan-10	08-Jan-10
02.04.05	Develop ROW Acquisition Plan	15	27-Nov-09	17-Dec-09
02.04.06	Begin Facility Proforma Analysis	20	25-Jan-10	19-Feb-10
02.04.07	Develop Facility Integration Plan	15	22-Feb-10	12-Mar-10
02.04.08	Identify Draft Facility Funding	15	22-Feb-10	12-Mar-10
02.04.09	Create Draft Facilities Report	5	15-Mar-10	19-Mar-10
02.04.10	Prepare/Review Milestone 4 Documents	3	22-Mar-10	24-Mar-10
02.04.11	Submit to TxDOT	0		24-Mar-10
02.04.12	TxDOT Review of Draft Milestone 4 Documents	3	25-Mar-10	29-Mar-10
02.04.13	Modify Milestone 4 Documents As Needed	3	30-Mar-10	01-Apr-10
02.04.14	Deliver Final Milestone 4 Documents	0		01-Apr-10
02.04.15	Approval of Milestone 4 Final Deliverables	20	02-Apr-10	29-Apr-10
MILESTONE 5		48	16-Apr-10	23-Jun-10
02.05.01	Develop Phasing & Sequencing Report	20	16-Apr-10	13-May-10
02.05.01.01	Determine Phasing and Sequencing Prioritization	5	07-May-10	13-May-10
02.05.01.02	Identify Steps to Close of Finance	10	30-Apr-10	13-May-10
02.05.02	Prepare/Review Milestone 5 Documents	3	14-May-10	18-May-10
02.05.03	Submit to TxDOT	0		18-May-10
02.05.04	TxDOT Review of Draft Milestone 5 Documents	3	19-May-10	21-May-10
02.05.05	Modify Milestone 5 Documents As Needed	3	24-May-10	26-May-10
02.05.06	Deliver Final Milestone 5 Documents	0		26-May-10
02.05.07	Approval of Milestone 5 Final Deliverables	20	27-May-10	23-Jun-10
MILESTONE 6		58	09-Jun-10	30-Aug-10
02.06.01	Develop Master Finance Plan	20	09-Jun-10	06-Jul-10
02.06.02	Develop Master Development Plan	20	23-Jun-10	20-Jul-10
02.06.03	Prepare/Review Milestone 6 Documents	3	21-Jul-10	23-Jul-10
02.06.04	Submit to TxDOT	0		23-Jul-10
02.06.05	TxDOT Review of Draft Milestone 6 Documents	3	26-Jul-10	28-Jul-10
02.06.06	Modify Milestone 6 Documents As Needed	3	29-Jul-10	02-Aug-10
02.06.07	Deliver Final Milestone 6 Documents	0		02-Aug-10
02.06.08	Approval of Milestone 6 Final Deliverables	20	03-Aug-10	30-Aug-10
MILESTONE 7		33	10-Aug-10	24-Sep-10
02.07.01	Create MDP Update Procedure	3	10-Aug-10	12-Aug-10
02.07.02	Create MFP Update Procedure	3	10-Aug-10	12-Aug-10
02.07.03	Prepare/Review Milestone 7 Documents	3	13-Aug-10	17-Aug-10
02.07.04	Submit to TxDOT	0		17-Aug-10
02.07.05	TxDOT Review of Draft Milestone 7 Documents	5	18-Aug-10	24-Aug-10
02.07.06	Modify Milestone 7 Documents As Needed	3	25-Aug-10	27-Aug-10
02.07.07	Deliver Final Milestone 7 Documents	0		27-Aug-10
02.07.08	Approval of Milestone 7 Final Deliverables	20	30-Aug-10	24-Sep-10
02.100	END of NTE ISOW Period	0		24-Sep-10



Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone

B.4 Financial Management Policies and Procedures

The accounting department responsible for the financial management of the NTE Project will likely have multiple branches dealing with the varied contractual structures that will be signed over the life of the CDA. It will utilize SAP (or similar software tool) as the main accounting tool to process and organize all incoming and outgoing financial information.

SAP, a powerful ERP solution, is an international standard which integrates all accounting and controlling tools necessary for NTEMP's initial master planning activities and, ultimately, concession management. Specifically, the Special Purpose Vehicle established for the management of a concession for a particular Segment will run SAP Fidelio (or another very similar software tool), an improved version of SAP specifically adapted by Cintra S.A. for infrastructure concession companies.

SAP (or similar software tool) provides the possibility to obtain the following accounting and controlling information reports in multiple formats:

- Monthly, yearly or accumulated Financial Statements
- Monthly, yearly or accumulated Budget
- Monthly, yearly or accumulated P&L compared with previous year
- Monthly, yearly or accumulated P&L compared with budget
- Detailed list of assets and cumulative depreciation
- Cash flow forecast reports
- List of open items (vendors, customers, employees)
- Cost centers expenses details compared with budget/previous year
- Bank statement and reconciliation accounts

All reports will be used as tools to maintain financial control of the ISOW, development and implementation activities.

Relevant financial information is usually received by mail or email and is submitted to the accounting department. Under this system all documents are coded in numerical order with a special document number and archived in secure cabinets.

By a significant margin, the largest financial burden on projects of this type is the cost of construction materials during the Segment implementation. Financial management of planning activities with a defined date-certain are relatively easy to manage in comparison. Largely, the schedule management procedures described in Section B.3 will be sufficient in that regard. Also, the Project Controls Group will be monitoring overall Project efficiency using the methods described in the Project Management Plan.

B.5 Draft Facilities Report

NTEMP will develop the NTE Segments 2-4 Master Development Plan holding firm the tenets clearly provided by the Texas Transportation Commission:

- Reduce congestion;
- Enhance safety;
- Expand economic opportunity;
- Improve air quality;
- Preserve the value of transportation assets.

In short, the overriding development goal will be to deliver all Segments as quickly as possible to improve the movement of people and goods throughout the area while minimizing the use of public funds. Correspondingly, improvements in the efficiency of the network will improve air quality.

To achieve these goals, NTEMP will leverage its collective experience to expedite the development process so that benefits from these facilities can be achieved quickly. Besides NTEMP team members' worldwide experience, their local experience includes Cintra's 85 percent equity share of the TTC-35 Project, the development of SH 130, Segments 5 and 6, and Earth Tech's extensive Texas experience and role as the Lead Planner and Engineer for the Developer on TTC-35. NTEMP staff reviewed the TxDOT RID transportation plans, investigated aerial mapping, performed site visits along the corridor and met with local officials to create the Conceptual Development Plan included in this Proposal.

Following analysis of TxDOT RID Schematics, NTEMP concluded that most of the configurations provided are satisfactory to provide connectivity between each Segment and the overall adjacent transportation network. There is only one proposed conceptual modification of the overall connectivity plan. This involves modifying Segment 4 from two reversible managed lanes (HOV/HOT) to a 2+2 managed toll lane configuration. The changes are intended to optimize the financial attractiveness of Segment 4. More detail on this proposed modification is provided in Section B.5.2 and B.5.4.

Although no other significant changes are proposed, the implementation plan outlined in this conceptual proposal—the plan that will best fast-track delivery of the Project as a whole—is contingent on the optimization of the managed lanes and minimization of additional general purpose capacity. This will allow the revenue feasibility necessary to expedite Segment delivery. As such, it will be a guiding principal in the evaluation of all Segments.

Through the environmental process, TxDOT has already established the purpose and, more importantly, the need for each NTE Segment. The NEPA process is either complete or well advanced for Segments 1-3C. Even the environmental process for Segment 4 will be complete during the MDP phase of the ISOW, so environmental clearance should not be on the critical path for delivering any one Segment of NTE. Thereby, one of the most critical (and potentially lengthy) development factors will not stand in the way of progress. TxDOT's desire to deliver the NTE Project while minimizing the use of public funds (potentially very significantly minimized for Segments 2-4) drives the two most important factors of phasing and sequencing the NTE Segments: the potential revenue and the cost of each Segment. Although public

safety and user benefit will remain paramount, and other factors will certainly play a role, these cost and revenue components will be the economic engine that powers the development schedule.

In very general terms, a Segment's development value relative to others can be measured by asking a series of five questions. By iteratively evaluating each Segment against this simple criterion throughout the MDP process the ultimate implementation schedule will be established, and the Segment phasing plan will be optimized.

- Does the proposed Segment configuration accelerate regional economic growth to the level that it is initially perceived more important than another?
- Does the Segment significantly enhance safety (i.e. are at-grade rail crossings or significant accident risks addressed)?
- In its current proposed configuration, does this Segment have the local and/or regional backing and environmental clearance to support an accelerated development process?
- In its current proposed configuration, have construction costs been sufficiently estimated?
- Under this configuration is this Segment financially self-sustainable?

A series of "Yes" answers to these questions will likely accelerate the development of this respective Segment. Failure at one or more of the criteria will initiate a re-evaluation of some sort. This process will become significantly more varied based on the actual results obtained – ranging from more detailed cost and/or traffic analyses to innovative construction cost optimization, financing partnerships, potential cross-financing packages of Segments, or potential Segment reconfiguration.

Admittedly, the simple criteria provided are a combination of objective and subjective factors, and political will and public support are not always measurable characteristics. However, many subjective elements are too significant to ignore, and will be accounted for during the process. Nevertheless, the economic and safety impacts of improvements to the region will remain the most important driving factors and shall always be the basis for the prioritization and implementation of NTE Segments.

This evaluation process is the thrust of the MDP and MFP. The ISOW will be dedicated to optimizing all relevant factors and providing a clear and concise development plan that phases the Segments based on true measurable value to the people of Texas. The remainder of this Conceptual Development Plan outlines the preliminary approach to Segment optimization against the parameters discussed.

Table B-2 outlines basic information about each Segment, plus development factors that will be thoroughly analyzed in the MDP, such as overall corridor benefit, political support, viability, construction cost and environmental progress. At this stage, this table provides a brief comparison of the factors concerning development of each Segment, allowing the user to weigh these factors and consider steps that could be taken to improve the feasibility of each Segment. For example, Segment 2E has almost completed the environmental clearance process, as opposed to Segment 4, which will require more time to achieve clearance. This makes Segment 4 less feasible for immediate development. During the ISOW the quantitative factors in the table will be replaced with values that allow more exact comparison. Essentially, these will form the thematic backbone of the cost-benefit estimation that will create the overall Segment phasing plan.

Table B-2: Segments 2-4 Summary and Development Factors

FACILITY (SEGMENT)												
Segment ID	Geographical Limits		General Description	Length of Facility (miles)	General Purpose Capacity (By Direction)	Interconnections		Development Factor				
						Major (Multi-level Interchange)	Minor (Minor Interchange or Grade Separation)	Overall Corridor Benefit	Political Support	Viable / Minimize Public Funds	Const. Cost	Environ. Progress
2E	NTE Segment 1C (SH 121)	SH 161	3 - 12' GP Lanes 3 - 12' Managed-Lanes	5.6	3 lanes	SH 360, DFW INTL PKWY	Industrial Blvd (FM 157), N Ector Dr, Euless Main, American Blvd/ Bear Creek Pkwy, Amon Carter Blvd	✪	✪	✪	●	✪
3A	NTE Segment 1 (IH 820)	IH 30	3 - 12' GP Lanes 2 - 12' Managed-Lanes	6.5	3 lanes	SH 121 / Spur 280	Meacham Blvd, SH 183/ 28TH St, FW&Western RR, BNSF RR, UPRR, Yucca/Northside Dr, West Fork Trinity River	✪	✪	✪	●	●
3B	NTE Segment 1 (IH 820)	NTE Segment 3C (US 287)	3 - 12' GP Lanes 2 - 12' Managed-Lanes	3.3	3 lanes	US 81 / 287	Basswood Blvd, Big Fossil Creek, Western Center Blvd	✪	✪	✪	✪	●
3C	NTE Segment 2 (US 287)	SH 170	3 - 12' GP Lanes 2 - 12' Managed-Lanes	5.0	3 lanes	SH 170	N Tarrant Pkwy, Heritage Trace Pkwy, Golden Triangle Blvd, Keller-Hicks Rd	●	✪	●	✪	●
4	NTE Segment 1B (SH 183)	Randol Mill Road	3 to 4 - 12' GP Lanes 2 - 12' Managed-Lanes	3.7	3-4 lanes	SH 121, SEGMENT 1	Randol Mill Rd, Trinity Blvd, Handley-Ederville Rd, SH 10 (Hurst Blvd)	●	●	○	●	○

Notes:

All improvements are proposed as mixed-use

Lengths shown are approximate and may not reflect the length of all elements within each segment

✪ - Positive Influencing Factor

● - Neutral Influencing Factor

○ - Negative Influencing Factor

B.5.1 Preliminary Project Traffic and Revenue

The rate of delivery of each of Segments 2-4 is directly related to each Segment's traffic demand versus optimum capacity. To minimize the use of public funds, revenue must be generated through the optimization of tolls. For drivers to be willing to pay a premium, they must receive a benefit from using the managed lanes. Additionally, general purpose lane capacity must be considered. There must be sufficient capacity to carry non-peak flows. However, if excess general purpose lanes are available fewer users will be willing to pay to use the managed lanes, and the feasibility of any corridor improvement becomes a question. With the exception of Segment 4, the proposed TxDOT RID schematics were analyzed in current configuration and traffic and revenue projections were developed for each Segment.

Segment 4 was conceptually modeled as a two-lane reversible HOT system. It is assumed that Segment 4 could be further optimized as a four managed-lane scenario between the Segment 1B and SH 121 interchanges and a split single managed lane scenario maintaining connectivity through both legs of the SH 121 interchange. This will be further modeled during Milestone 4 of the ISOW. The following preliminary traffic and revenue data will be further refined during development of the NTE MDP in parallel with any potential configurational efficiencies that may determined through this process.

The Managed Lanes

NTEMP team members prepared preliminary Traffic and Revenue forecasts for Segments 2 (subtracting the portions accepted into the Concession Facility Proposal), 3A, 3B, 3C and 4 of the NTE Managed Lanes. These Segments, in combination with the Concession Facility, comprise a collective length of highway Segments of approximately 36.2 centerline miles–with additional Segment lengths required to fully connect to the existing grid at major interchanges. These Segments are collectively located on the following highways in northern Tarrant County and southern Denton County:

- IH 820
- SH 183
- IH 35W

Based on an iterative process of evaluating Project feasibility, the timing for construction of the relevant NTE Segments is summarized as follows:

- **Segment 1A, 1B and 1C opened by 2014** – timing determined by Concession Facility Development and Construction schedule
- **Segment 2E opened by 2016** – timing determined by Segment feasibility analyses and mobilization savings considerations from the adjacent construction of the Concession Facility
- **Segment 3A opened by 2018** – timing determined by Segment feasibility analyses
- **Segment 3B opened by 2018** – timing determined by Segment feasibility analyses
- **Segment 3C opened by 2020** – timing determined by Segment feasibility analyses
- **Segment 4 opened by 2025** – timing determined by Segment feasibility analyses and consideration of the environmental re-evaluation process

The managed lanes will be constructed alongside general purpose lanes and will therefore compete for market share with these lanes. Managed lanes are lanes within a freeway set aside specifically aimed to

move traffic more efficiently in those lanes. Thereby travelers have an option of using the general purpose "congested" lanes, or the free-flowing managed lanes. The free-flowing conditions are maintained by systematically adjusting the toll rate to manage the travel demand.

The modeled layout configuration and lengths of Segments 2-4 are described in Table B-3. Modeled lengths are those provided in the RFP; these may not necessarily reflect that which is measured in an optimized schematic configuration.

Table B-3: Segments 2-4 Modeled Layout Configuration

Segment	Managed Lanes Length	No Lanes By Direction	
		Managed Lanes	General Purpose
2E	4.44 miles	3	3
3A	6.35 miles	2	2-3
3B	3.30 miles	2	2-3
3C	5.00 miles	2	3
4	3.70 miles	2 reversible (2 in peaks, 0 all other times)	2-4

Note: Segment 4 peak direction = northbound 6-9am, southbound 4-7pm

The Methodology

The Traffic and Revenue forecasts were developed using detailed traffic modeling based on designated toll rate caps, and toll rate cap adjustments which were specified by TxDOT for the Concession Facility. TxDOT has also specified that a speed of 50 miles per hour must be maintained on the managed lanes. High-occupancy vehicles are expected to receive a discounted toll rate during peak periods for using the managed lanes until 2025. This discount will be subsidized by TxDOT. Trucks will pay a higher toll rate, based on the number of axles.

The preliminary Traffic and Revenue forecasts are based on an Optimum Tolling Scenario. The traffic modeling was undertaken for base year (2006, with revenues projected forward to 2008) and forecast years 2015, 2025 and 2030. The future year traffic matrices used in the modeling were refined to reflect the forecast population and employment growth in Tarrant and Denton Counties which are forecast to grow by around 1.4% and 2.8% respectively to 2030. The traffic modeling was split into seven time periods to represent the different congestion levels experienced throughout the day – which are critical to generating higher toll rates during period of high travel demand. Intermediate year forecasts were interpolated, and forecasts after 2030 were extrapolated based on long-term growth rates with capacity constraints applied.

The forecasts were produced by Segment, by direction, by vehicle type and by time period, based on the optimized tolling scenario.

Toll Rate Optimization

Revenue optimization was carried out using a two-step process. Step one involved running the initial base toll rates and incrementally changing these rates to develop a series of revenue curves. From these curves, the optimal toll rate in terms of revenue for the NTE Segments was derived. A final run was then

undertaken applying in combination the optimized toll rates for each of the Segments by seven time intervals during 24 hour period. A secondary optimization is to evaluate both general purpose and managed lane volumes so that throughput can be maximized across all roadways in each Segment. This will be the criterion that determines where the toll caps will be set and how much modification can be allowed to occur. The adjustment of toll rate caps is further discussed in the tolling section of the Section B.6 – Facility Integration Plan.

The optimized toll rates (in 2008 dollars) for Segments 2E to 4 by direction have been summarized in **Table B-4** to **Table B-8**.

Table B-4: Segment 2E Toll Rates ($ per Mile - $ 2008 Dollars)

	Eastbound							Westbound						
Year	AM 6-7am	AM 7-9am	OP Day 9am-4pm, 7-8pm	PM 4-5pm	PM 5-7pm	OP Night 8pm-10pm	OP Night 10pm to 6am	AM 6-7am	AM 7-9am	OP Day 9am-4pm, 7-8pm	PM 4-5pm	PM 5-7pm	OP Night 8pm-10pm	OP Night 10pm to 6am
2016	1.58	2.38	1.19	1.95	1.37	0.57	0.47	0.93	1.30	1.53	2.89	2.13	0.74	0.47
2017	1.67	2.54	1.25	2.04	1.44	0.59	0.47	0.94	1.31	1.58	3.01	2.22	0.73	0.47
2018	1.76	2.69	1.32	2.20	1.51	0.60	0.48	0.94	1.32	1.64	3.19	2.32	0.73	0.47
2019	1.85	2.85	1.39	2.31	1.58	0.61	0.48	0.95	1.33	1.69	3.33	2.41	0.72	0.48
2020	1.94	3.09	1.46	2.42	1.64	0.63	0.48	0.96	1.25	1.74	3.47	2.51	0.72	0.48
2025	1.99	3.19	1.80	2.39	1.80	0.70	0.50	0.80	1.40	1.99	3.99	2.79	0.70	0.50
2030	2.39	3.99	2.19	2.99	2.19	0.90	0.50	1.00	1.79	2.39	4.19	3.19	0.90	0.50
2035	2.79	4.79	2.59	3.59	2.59	1.10	0.50	1.20	2.19	2.79	4.39	3.59	1.10	0.50
2040	3.19	5.59	2.99	4.19	2.99	1.30	0.50	1.40	2.59	3.19	4.59	3.99	1.30	0.50
2045	3.59	6.38	3.39	4.79	3.39	1.50	0.50	1.60	2.99	3.59	4.79	4.39	1.50	0.50
2050	3.99	7.18	3.79	5.39	3.79	1.70	0.50	1.79	3.39	3.99	4.99	4.79	1.70	0.50
2055	4.39	7.98	4.19	5.98	4.19	1.89	0.50	1.99	3.79	4.39	5.19	5.19	1.89	0.50
2060	4.79	8.78	4.59	6.58	4.59	2.09	0.50	2.19	4.19	4.79	5.39	5.58	2.09	0.50
2065	5.19	9.57	4.99	7.18	4.99	2.29	0.50	2.39	4.59	5.19	5.58	5.98	2.29	0.50

Table B-5: Segment 3A Toll Rates ($ per Mile - $ 2008 Dollars)

	Northbound							Southbound						
Year	AM 6-7am	AM 7-9am	OP Day 9am-4pm, 7-8pm	PM 4-5pm	PM 5-7pm	OP Night 8pm-10pm	OP Night 10pm to 6am	AM 6-7am	AM 7-9am	OP Day 9am-4pm, 7-8pm	PM 4-5pm	PM 5-7pm	OP Night 8pm-10pm	OP Night 10pm to 6am
2018	1.25	1.96	2.11	2.20	2.00	0.57	0.36	1.99	2.51	2.09	2.20	1.70	0.63	0.37
2019	1.37	2.09	2.24	2.32	2.15	0.64	0.36	2.15	2.60	2.24	2.33	1.82	0.69	0.37
2020	1.57	2.29	2.22	2.43	2.15	0.72	0.36	2.32	2.69	2.17	2.39	1.94	0.75	0.37
2025	2.01	2.72	2.87	3.01	2.72	1.07	0.36	2.99	3.14	2.69	3.14	2.69	1.05	0.37
2030	2.87	3.01	3.01	3.01	3.01	1.50	0.36	3.14	3.14	3.14	3.14	3.14	1.57	0.37
2035	3.73	3.30	3.15	3.01	3.30	1.93	0.36	3.29	3.14	3.59	3.14	3.59	2.09	0.37
2040	4.58	3.58	3.30	3.01	3.58	2.36	0.36	3.44	3.14	4.04	3.14	4.04	2.62	0.37
2045	5.44	3.87	3.44	3.01	3.87	2.79	0.36	3.59	3.14	4.49	3.14	4.49	3.14	0.37
2050	6.30	4.15	3.58	3.01	4.15	3.22	0.36	3.74	3.14	4.94	3.14	4.94	3.67	0.37
2055	7.16	4.44	3.73	3.01	4.44	3.65	0.36	3.89	3.14	5.39	3.14	5.39	4.19	0.37
2060	8.02	4.73	3.87	3.01	4.73	4.08	0.36	4.04	3.14	5.84	3.14	5.83	4.71	0.37
2065	8.88	5.01	4.01	3.01	5.01	4.51	0.36	4.19	3.14	6.28	3.14	6.28	5.24	0.37

Table B-6: Segment 3B Toll Rates ($ per Mile - $ 2008 Dollars)

	Northbound						Southbound							
Year	AM 6-7am	AM 7-9am	OP Day 9am-4pm, 7-8pm	AM 6-7am	AM 7-9am	OP Night 8pm-10pm	AM 6-7am	AM 7-9am	AM 7-9am	AM 6-7am	AM 7-9am	PM 5-7pm	AM 6-7am	AM 7-9am
2018	0.36	0.53	0.56	0.94	0.66	0.22	0.20	0.58	0.87	0.47	0.68	0.49	0.21	0.18
2019	0.40	0.60	0.62	1.05	0.74	0.23	0.20	0.65	0.96	0.52	0.76	0.55	0.23	0.18
2020	0.48	0.83	0.67	1.11	0.83	0.26	0.20	0.76	0.95	0.58	0.87	0.58	0.24	0.18
2025	0.63	1.03	0.95	1.43	1.03	0.32	0.20	1.02	1.53	0.80	1.24	0.87	0.29	0.18
2030	0.95	1.43	1.35	1.67	1.35	0.44	0.20	1.31	1.53	1.09	1.53	1.24	0.40	0.18
2035	1.27	1.83	1.75	1.90	1.67	0.56	0.20	1.60	1.53	1.38	1.82	1.60	0.51	0.18
2040	1.59	2.22	2.14	2.14	1.98	0.67	0.20	1.89	1.53	1.67	2.11	1.97	0.62	0.18
2045	1.90	2.62	2.54	2.38	2.30	0.79	0.20	2.18	1.53	1.97	2.40	2.33	0.73	0.18
2050	2.22	3.02	2.94	2.62	2.62	0.91	0.20	2.48	1.53	2.26	2.69	2.69	0.84	0.18
2055	2.54	3.41	3.33	2.86	2.94	1.03	0.20	2.77	1.53	2.55	2.99	3.06	0.95	0.18
2060	2.86	3.81	3.73	3.10	3.25	1.15	0.20	3.06	1.53	2.84	3.28	3.42	1.06	0.18
2065	3.17	4.21	4.13	3.33	3.57	1.27	0.20	3.35	1.53	3.13	3.57	3.79	1.17	0.18

Table B-7: Segment 3C Toll Rates ($ per Mile - $ 2008 Dollars)

	Northbound						Southbound							
Year	AM 6-7am	AM 7-9am	OP Day 9am-4pm, 7-8pm	AM 6-7am	AM 7-9am	OP Night 8pm-10pm	AM 6-7am	AM 7-9am	AM 7-9am	AM 6-7am	AM 7-9am	PM 5-7pm	AM 6-7am	AM 7-9am
2020	1.15	1.92	1.67	2.44	1.85	0.60	0.42	1.46	2.17	1.44	2.15	1.46	0.63	0.44
2025	1.65	2.76	2.57	3.31	2.39	0.83	0.46	2.28	3.43	2.09	3.23	2.28	0.86	0.48
2030	2.76	3.31	3.12	3.86	3.12	1.10	0.46	2.66	4.00	2.66	4.00	3.23	1.33	0.48
2035	3.86	3.86	3.68	4.41	3.86	1.38	0.46	3.04	4.57	3.23	4.76	4.19	1.81	0.48
2040	4.96	4.41	4.23	4.96	4.60	1.65	0.46	3.43	5.14	3.81	5.52	5.14	2.28	0.48
2045	6.07	4.96	4.78	5.51	5.33	1.93	0.46	3.81	5.71	4.38	6.28	6.09	2.76	0.48
2050	7.17	5.51	5.33	6.07	6.07	2.21	0.46	4.19	6.28	4.95	7.04	7.04	3.23	0.48
2055	8.27	6.07	5.88	6.62	6.80	2.48	0.46	4.57	6.85	5.52	7.80	7.99	3.71	0.48
2060	9.37	6.62	6.43	7.17	7.54	2.76	0.46	4.95	7.42	6.09	8.56	8.94	4.19	0.48
2065	10.48	7.17	6.98	7.72	8.27	3.03	0.46	5.33	7.99	6.66	9.32	9.90	4.66	0.48

Table B-8: Segment 4 Toll Rates ($ per Mile - $ 2008 Dollars)

	Northbound							Southbound						
Year	AM 6-7am	AM 7-9am	OP Day 9am-4pm, 7-8pm	PM 4-5pm	PM 5-7pm	OP Night 8pm-10pm	OP Night 10pm to 6am	AM 6-7am	AM 7-9am	OP Day 9am-4pm, 7-8pm	PM 4-5pm	PM 5-7pm	OP Night 8pm-10pm	OP Night 10pm to 6am
2025	0.54	0.93									0.93	0.72		
2030	0.70	1.24									1.14	0.86		
2035	0.85	1.55									1.36	1.00		
2040	1.00	1.86									1.57	1.14		
2045	1.16	2.16									1.79	1.29		
2050	1.31	2.47									2.00	1.43		
2055	1.47	2.78									2.22	1.57		
2060	1.62	3.09									2.43	1.72		
2065	1.78	3.40									2.65	1.86		

The Forecasts

The Average Annual Daily Transactions (AADT) by Segment are provided in

Table B-9. The corresponding revenue forecasts by Segment by year are provided in Table B-10.

Table B-9: Average Annual Daily Transactions for Segments 2-4

Year	AADT Transactions (000s)					
	Seg 2E	Seg 3A	Seg 3B	Seg 3C	Seg 4	Total
2014	0.0	0.0	0.0	0.0	0.0	0.0
2015	0.0	0.0	0.0	0.0	0.0	0.0
2016	31.9	0.0	0.0	0.0	0.0	31.9
2017	31.5	0.0	0.0	0.0	0.0	31.5
2018	31.1	11.9	6.8	0.0	0.0	49.8
2019	30.7	12.3	7.3	0.0	0.0	50.3
2020	30.3	16.2	12.5	7.7	0.0	66.7
2021	29.9	16.8	13.1	7.9	0.0	67.8
2022	29.5	17.5	13.8	8.2	0.0	68.9
2023	29.1	18.1	14.4	8.4	0.0	70.0
2024	28.8	18.7	15.1	8.6	0.0	71.2
2025	28.1	18.6	15.2	8.4	1.1	71.4
2026	28.6	19.6	15.8	8.8	1.1	74.0
2027	29.2	20.5	16.4	9.3	1.1	76.5
2028	29.8	21.4	17.1	9.7	1.1	79.1
2029	30.4	22.4	17.7	10.1	1.1	81.6
2030	31.0	23.3	18.3	10.5	1.1	84.2
2031	31.3	24.2	18.8	10.8	1.1	86.3
2032	31.7	25.1	19.3	11.1	1.1	88.3
2033	32.0	26.0	19.7	11.5	1.1	90.3
2034	32.4	26.8	20.1	11.7	1.1	92.1
2035	32.7	27.7	20.5	12.0	1.1	94.0
2036	33.0	28.5	20.8	12.3	1.1	95.7
2037	33.3	29.3	21.2	12.6	1.1	97.5
2038	33.6	30.1	21.5	12.8	1.1	99.1
2039	33.9	30.9	21.9	13.0	1.1	100.8
2040	34.2	31.6	22.2	13.3	1.1	102.4
2041	34.5	32.4	22.5	13.5	1.1	103.9
2042	34.7	33.2	22.8	13.7	1.1	105.4
2043	35.0	33.9	23.1	13.9	1.1	106.9

Year	AADT Transactions (000s)					
	Seg 2E	Seg 3A	Seg 3B	Seg 3C	Seg 4	Total
2044	35.2	34.6	23.3	14.1	1.1	108.4
2045	35.5	35.3	23.6	14.3	1.1	109.8
2046	35.7	36.0	23.9	14.5	1.1	111.2
2047	36.0	36.8	24.1	14.7	1.1	112.6
2048	36.2	37.4	24.4	14.9	1.1	114.0
2049	36.4	38.1	24.7	15.0	1.1	115.3
2050	36.7	38.8	24.9	15.2	1.1	116.7
2051	36.9	39.5	25.1	15.4	1.1	118.0
2052	37.1	40.2	25.4	15.5	1.1	119.2
2053	37.3	40.8	25.6	15.7	1.1	120.5
2054	37.5	41.5	25.9	15.8	1.1	121.8
2055	37.7	42.1	26.1	16.0	1.1	123.0
2056	37.9	42.7	26.3	16.1	1.1	124.2
2057	38.1	43.4	26.5	16.3	1.1	125.4
2058	38.3	44.0	26.7	16.4	1.1	126.6
2059	38.5	44.6	27.0	16.6	1.1	127.8
2060	38.7	45.3	27.2	16.7	1.1	128.9
2061	38.9	45.9	27.4	16.8	1.1	130.1
2062	39.1	46.5	27.6	17.0	1.1	131.2
2063	39.3	47.1	27.8	17.1	1.1	132.4
2064	39.5	47.7	28.0	17.2	1.1	133.5
2065	39.7	48.3	28.2	17.4	1.1	134.6

Table B-10: Segments 2-4 Revenue Forecasts by Segment

Year	Revenue (000s , 2008 Dollars)					
	Seg 2E	Seg 3A	Seg 3B	Seg 3C	Seg 4	Total
2014	0.0	0.0	0.0	0.0	0.0	0.0
2015	0.0	0.0	0.0	0.0	0.0	0.0
2016	28.2	0.0	0.0	0.0	0.0	28.2
2017	29.0	0.0	0.0	0.0	0.0	29.0

Year	Revenue (000s , 2008 Dollars)					
	Seg 2E	Seg 3A	Seg 3B	Seg 3C	Seg 4	Total
2018	29.8	26.7	7.8	0.0	0.0	64.3
2019	30.6	29.5	9.1	0.0	0.0	69.2
2020	31.7	33.4	12.3	16.0	0.0	93.5
2021	32.6	36.3	13.8	18.0	0.0	100.6
2022	33.5	39.2	15.2	19.9	0.0	107.8
2023	34.3	42.2	16.7	21.8	0.0	114.9
2024	35.2	45.1	18.1	23.7	0.0	122.1
2025	34.0	46.1	18.8	24.0	1.0	123.9
2026	36.0	49.7	21.0	26.7	1.0	134.3
2027	38.0	53.3	23.1	29.3	1.1	144.7
2028	39.9	56.9	25.2	31.9	1.1	155.1
2029	41.9	60.5	27.4	34.5	1.2	165.4
2030	43.9	64.1	29.5	37.1	1.2	175.8
2031	45.9	67.7	31.6	39.7	1.2	186.2
2032	47.9	71.3	33.8	42.3	1.3	196.6
2033	49.9	74.8	35.9	45.0	1.3	206.9
2034	51.9	78.4	38.0	47.6	1.4	217.3
2035	53.9	82.0	40.2	50.2	1.4	227.7
2036	55.8	85.6	42.3	52.8	1.5	238.1
2037	57.8	89.2	44.4	55.4	1.5	248.4
2038	59.8	92.8	46.6	58.0	1.6	258.8
2039	61.8	96.4	48.7	60.6	1.6	269.2
2040	63.8	100.0	50.8	63.2	1.7	279.6
2041	65.8	103.6	53.0	65.9	1.7	289.9
2042	67.8	107.2	55.1	68.5	1.8	300.3
2043	69.8	110.8	57.2	71.1	1.8	310.7
2044	71.7	114.4	59.4	73.7	1.9	321.1
2045	73.7	118.0	61.5	76.3	1.9	331.5
2046	75.7	121.6	63.6	78.9	2.0	341.8
2047	77.7	125.2	65.8	81.5	2.0	352.2
2048	79.7	128.8	67.9	84.2	2.1	362.6

Year	Revenue (000s , 2008 Dollars)					
	Seg 2E	Seg 3A	Seg 3B	Seg 3C	Seg 4	Total
2049	81.7	132.4	70.0	86.8	2.1	373.0
2050	83.7	135.9	72.2	89.4	2.2	383.3
2051	85.7	139.5	74.3	92.0	2.2	393.7
2052	87.6	143.1	76.4	94.6	2.3	404.1
2053	89.6	146.7	78.6	97.2	2.3	414.5
2054	91.6	150.3	80.7	99.8	2.4	424.8
2055	93.6	153.9	82.8	102.4	2.4	435.2
2056	95.6	157.5	85.0	105.1	2.5	445.6
2057	97.6	161.1	87.1	107.7	2.5	456.0
2058	99.6	164.7	89.2	110.3	2.6	466.4
2059	101.5	168.3	91.4	112.9	2.6	476.7
2060	103.5	171.9	93.5	115.5	2.7	487.1
2061	105.5	175.5	95.6	118.1	2.7	497.5
2062	107.5	179.1	97.8	120.7	2.8	507.9
2063	109.5	182.7	99.9	123.3	2.8	518.2
2064	111.5	186.3	102.0	126.0	2.8	528.6
2065	113.5	189.9	104.2	128.6	2.9	539.0

The preliminary forecasts for these Segments will be considerably further refined in Milestones 4 and 5 of the MDP process. The two primary sources of data will be the NCTCOG and the TxDOT Statewide Analysis Model. Also, all sources available (including State Water Board population projections) will be used to normalize the projected traffic data and to provide sensitivity analyses – in so doing, optimizing the model O-D inputs, toll diversion criteria, and individualized growth patterns, etc. The schematic development process will also further optimize the electronic tolling interface with the driver as technology expands and will refine the physical toll plaza/gantry locations. In short, the models will be tailored to best fit each Segment's ability to effectively manage the projected congestion that necessitates a project of this scope. As a result, the risk profile (as discussed in detail later) of each Segment will be significantly reduced with the increased reliability of the traffic data and proposed toll collection hardware utilized.

B.5.2 Segment Cost Analysis

Construction Costs

Following a thorough review of the RID Schematics, NTEMP concluded that most of the provided configurations are generally sufficient to provide the connectivity and allow the revenue feasibility necessary to expedite Segment development.

A very detailed proposal-level quantification and cost estimate was developed for the Concession Facility. Details of this effort are included in the Concession Facility Development Plan component of this Proposal. The methodology behind these detailed cost analysis efforts formed the backbone for initial estimation activities for Segments 2-4. The reviews of the RID files determined the level of detail and number of quantifiable elements that would be available to sufficiently estimate the construction costs for each of the Segments. Macro-level features were identified and summarized for each Segment. Then, smaller cost items were estimated based on either a) unit price per length of Segment, or b) as a ratio of quantity based on the more detailed analysis from the Concession Facility. The estimated features were sorted into major design elements – essentially by discipline. This process is more easily understood by viewing the detailed spreadsheets in Appendix E.3 – Draft Facilities Report. This document provides summaries for quantities, costs and yearly distribution of expenditures.

All structure and pavement limits were measured and entered into master spreadsheets so that they could be modified based on optimized lane configuration for both the general purpose and managed lanes. Three construction elements deemed by the Team as the most significant were coded so that they could be proportionally adjusted based on lane reconfiguration: pavement material strata, earthwork and structure deck width. This is accomplished using a simple ratio of base case-to-test case pavement width (e.g. an additional 12-ft lane added to a previously 40-ft roadway footprint would initiate the application of a 1.3 adjustment factor in the x-axis). However, configurationally independent Segment elements and those providing connection to adjacent roadway features, such as longitudinal mainlane and direct connect bridge limits, were not modified. Unit costs were applied to the schematic-level quantification using TxDOT Low-Bid Unit Prices and verified by both engineering and DBJV partners of NTEMP. Quantities were evaluated for optimum efficiency in revenue generation, vehicle throughput and dollars expended.

One schematic modification is proposed from that which was provided in the RID, with the objective of enhancing the Segment's financial attractiveness:

- Segment 4 has been modified within this proposal's conceptual estimates from two reversible managed-lane (HOV/HOT) lanes to a facility containing a 2+2 managed lane configuration.

At this proposal-level estimate, this does not create a large change in the overall development cost of the Segment. Many major items are based on overall centerline length and the grade separation requirements that would be inherent to this Segment in any type of managed-lane configuration. Also, proportionally, Segment 4's construction costs are heavily weighted toward the redesign of the SH 121/IH 820 interchange. The interchange configuration would not change significantly from a cost perspective. However, it is assumed that a redesign would necessitate additional ROW and require a slightly more expensive direct connector configuration. In addition, there would be, on average, an additional managed lane along the length of the Segment.

Section B.5.4 of this document provides illustrations of the revised configuration utilized for Segment 4. This will be a significant area of focus during Milestone 4 of the MDP, as it will require extensive schematic design to evaluate properly. Full schematic quantification of all Segments using the procedures and approximate teaming arrangements of that for the Concession Facility will be a component of Milestone 4.

For purposes of the construction cost estimates created in this section, the average lane configuration of each Segment is shown in Table B-11. An initial optimized configuration was assumed the most viable in

the Near Term. Expansions are not yet accounted for, although it is anticipated that these would be triggered by certain Segment performance factors as that which is established for the Concession Facility. Triggers and expansion methodology will be further explored in the MDP. It is anticipated these will be quantified at that time with the details for each Segment being further fine-tuned during the Facility Implementation Plan process.

Table B-11: Segments 2-4 Optimized Lane Configuration

	MILE[1]	GP LANES[2]	MAN. LANES[2]	FR. LANES[2]
Segment 2	6.49	3	3	2
Segment 3A	6.95	2-3	2	2
Segment 3B	2.59	2-3	2	2
Segment 3C	6.81	3	2	2
Segment 4	5.10	2-4	2	2

Optimized Proposal

TxDOT Original Configuration

Notes:

1. Mileage is considered as length of Segment plus all ancillary connecting construction
2. All lane configurations are considered each way and are shown as avg. for quantification purposes

Assumptions have been made concerning each final Segment configuration

RID schematics are reflected in TxDOT Original Configuration

Table B-12 provides the construction cost summary for each NTE Segment by major design element, while the Table B-13 summarizes the estimated construction costs for each Segment of NTE including 5.0 percent contingency, overhead, insurance and profit. All costs are presented in 2008 dollars. In all, construction (and construction management) will be the largest cost of developing NTE Segments 2-4, at roughly 85 percent of the total.

Detailed summaries of the quantities gathered for the Segments, the unit pricing applied to them and the cost distribution over time are provided in Appendix E.3 – Draft Facilities Report.

Table B-12: Segments 2-4 Development Costs

NTE ESTIMATED CONSTRUCTION COSTS 2008 Dollars (in thousands)						
ITEM	NTE WORK DESCRIPTION	NTE 2E[1]	NTE 3A	NTE 3B	NTE 3C	NTE 4
1.01A	ROADWAY REMOVALS & PRELIMINARY WORK	$ 6,171	$ 7,148	$ 2,038	$ 5,478	$ 4,012
1.01B	BRIDGE REMOVALS	$ 2,880	$ 4,800	$ 160	$ 480	$ 1,600
1.02	EARTHWORK	$ 24,255	$ 37,541	$ 7,845	$ 24,739	$ 15,138
1.03	LANDSCAPING	$ 1,882	$ 2,613	$ 721	$ 3,327	$ 2,429
1.04	SUBGRADE TREATMENTS AND BASE	$ 20,369	$ 19,334	$ 10,507	$ 23,017	$ 14,415
1.05	PAVEMENTS, DRIVEWAYS & CURBS	$ 31,330	$ 29,727	$ 16,130	$ 35,732	$ 22,021
1.06	RETAINING WALLS, SHORING & SHEET PILING	$ 48,705	$ 69,151	$ 21,760	$ 56,000	$ 38,541
1.07A	BRIDGES - MAIN LANES & FRONTAGE ROADS	$ 190,053	$ 134,323	$ 18,329	$ 31,169	$ 39,201
1.07B	BRIDGES - DIRECT CONNECTORS	$ 15,953	$ 94,926	$ 8,959	$ 45,039	$ 57,766
1.08	DRAINAGE AND RIPRAP	$ 10,669	$ 11,393	$ 4,756	$ 14,717	$ 6,466
1.09	TRAFFIC CONTROL, DETOURS & TEMPORARY WORK	$ 4,320	$ 4,320	$ 4,320	$ 4,320	$ 4,320
1.10	PERMANENT BARRIERS, GUARDRAIL & FENCING	$ 1,713	$ 1,835	$ 684	$ 1,798	$ 1,346
1.11	LIGHTING, ELECTRICAL AND TRAFFIC SIGNALS	$ 5,232	$ 3,248	$ 1,888	$ 5,152	$ 2,752
1.12	SIGNING & MARKINGS	$ 1,885	$ 1,972	$ 1,155	$ 2,697	$ 1,558
1.13	SPECIAL AESTHETIC TREATMENTS	$ 1,785	$ 1,911	$ 712	$ 1,873	$ 1,403
1.14	UTILITY RELOCATIONS	$ 9,735	$ 15,638	$ 3,885	$ 10,215	$ 11,475
1.21	NOISE WALLS	$ 20,834	$ 22,311	$ 8,315	$ 7,287	$ 16,372
1.22	DETENTION PONDS[2]					
1.42	ITS DUCT BANK SYSTEM	$ 9,540	$ 10,000	$ 5,640	$ 9,860	$ 8,150
	CONSTRUCTION TOTALS	$ 407,312	$ 472,190	$ 117,803	$ 282,901	$ 248,965
	ROW ACQUISITION	$ 34,720	$ 110,520	$ 37,320	$ 58,400	$ 61,200

ASSUMPTIONS

1. NTE Segment 2E begins at the eastern end of Segment 1C
2. Assumed as a subcomponent of Item 1.08 – Drainage and Riprap

Table B-13: Segments 2-4 Development Cost Summary

	SEGMENT DEVELOPMENT TOTALS - 2008 DOLLARS (in thousands)				
	NTE 2E	NTE 3A	NTE 3B	NTE 3C	NTE 4
Construction	$ 407,312	$ 472,190	$ 117,803	$ 282,901	$ 248,965
Right of Way	$ 34,720	$ 110,520	$ 37,320	$ 58,400	$ 61,200
Tolling Integration [a]	$ 20,279	$ 27,212	$ 15,209	$ 23,698	$ 17,969
Overhead [b]	$ 18,329	$ 23,610	$ 5,890	$ 14,145	$ 12,448
Design Services [c]	$ 23,828	$ 42,497	$ 10,602	$ 25,461	$ 22,407
Misc Advisors [d]	$ 5,8618	$ 6,729	$ 1,679	$ 4,031	$ 3,548
TOTAL	**$ 510,086**	**$ 682,758**	**$ 188,503**	**$ 408,637**	**$ 366,537**

ASSUMPTIONS

Overhead as a percentage of Const [b]	**5.00%**	of const
Design Advisors as a percentage of Const [c]	**9.00%**	of const
Misc Advisors as a percentage of Const + Design + OH Cost [d]	**1.25%**	of const + overhead

a. Tolling integration fee provided as a lump sum from the integration team member
b. Overheads, Insurances, Contingencies, Profit (10% overhead efficiency included for Segment 2E)
c. Preliminary and detailed design services. Design-Build delivery. (35% design efficiency for Segment 2E)
d. Miscellaneous advisory services throughout Segment development, including the Independent Engineer.

Development, Advisory and O&M Costs

Each Segment cost element that was determined primarily from assumptions, and/or a percentage of construction value, is detailed in the following text. The rates shown are created from NTEMP experience on a multitude of similar projects worldwide. With the exception of Segment 2E, in which there were efficiencies accounted for due to the adjacent relatively concurrent development of the Concession Facility, the percentages hold for all Segments. Efficiencies assumed for Segment 2E are a 10% reduction in overheads and a 35% reduction in design advisory services.

Planning and Facility Feasibility

It is assumed that some additional engineering will be required to fully detailed-quantify, price and package each Segment in advance of a Facility Development Agreement and through Close of Finance. There will also be several other advisory services involved. The following costs are assumed as the costs to prepare each Segment to Close of Finance:

- 2.00% of construction value for the preliminary schematic design
- 0.50% of construction value for remaining planning activities and feasibility studies to assist in the final stages of the environmental process
- 0.50% of construction value plus overhead for additional miscellaneous advisory services during the process

Environmental Mitigation and Re-evaluation

Environmental documents prepared for NTE Segments 2-4 will identify certain resources that will require mitigation prior to or during construction. These include stream and wetland impacts, protected species relocations, archaeological site investigations, historic structure evaluation and mitigation, park or recreation areas, wildlife crossings, hazardous waste site cleanup, cemetery relocation, noise walls, and other context-sensitive design commitments. Due to the wide variety of potential impacts and the unknowns for both their whereabouts and the extent to which the proposed Segment will affect them, environmental evaluation costs were estimated as a percentage of construction costs and rolled into the design advisory fees. It was assumed that as ROW impacts will be minimal, environmental impacts will follow suit.

- 0.90% of construction value for environmental mitigation
- 0.10% of construction value for any re-evaluations that may arise

It is assumed that a significant amount of time will not pass from the date of the NTE Segments 2-4 Finding of No Significant Impact (FONSI) or Record of Decision (ROD) to construction. Although, if it is required that the environmental document be re-visited, and updated, it is anticipated that TxDOT, or their representatives, will perform this work to avoid any appearance of conflict of interest. These costs will be fairly minor, generally less than $75,000 to ensure the document is still valid, or to bring it up to date.

Design and Engineering

After a Facility Development Agreement is executed and Close of Finance approaches, final detailed engineering plans can be developed. This will include all plans required by TxDOT for review and approval for letting, or self-performance by NTEMP. Finally, funding for the Independent Engineer to review design activities will be split between NTEMP and TxDOT.

- 5.50% of construction value for the final detailed design
- 0.75% of construction value and overhead for half of the total costs of the Independent Engineer

The summation of the preceding three development categories is 10.25 percent of construction and overhead costs. This cost is applied to each Segment by the advisory and design service line items displayed in Table B-7. At the proposal stage of development, this is applied as overall percentages. These costs will be significantly fine-tuned in the detailed MDP process.

Right-of-Way

Costs included in acquiring real property for NTE Segments 2-4 are comprised of professional services provider fees for ROW and surveying and the actual property acquisition costs. ROW fees include monthly project administrative fees and the following services: title, initial appraisal and appraisal updates, initial appraisal review and appraisal review updates, negotiation, residential and business relocation, closing, condemnation support and disposal of property. Another variable would be the type that is to be performed: residential, small or large commercial, vacant or improved, damages to the improvements or remainders, land locked parcels, and purchase of access rights. The last factor to consider is the percentage of condemnations with the associated costs of obtaining updated appraisals and appraisal updates and updating title.

The cost per acre assumes that additional services may be needed for preparing and testifying at condemnation. These additional service unit costs such as; negotiators, expert witnesses, surveyors, land planners, reappraisals, were based on TxDOT historical costs. The amount of ROW required on NTE Segments 2-4 is quite variable in this stage of development (due to potential lane configuration changes). With the present number of unknowns, ROW acquisition is estimated as lump sum, per-acre rates based on results gathered on the Concession Facility (exact "all-in" ROW acquisition costs). The approximate values used for purposes of this proposal are shown in Table B-14.

Table B-14: Segments 2-4 ROW Acquisition Summary

NTE SEGMENT	ROW REQUIRED (AC)	COST PER ACRE	TOTAL
Seg 2E	21.7	$1,600,000	$34,720,000
Seg 3A	92.1	$1,200,000	$110,520,000
Seg 3B	31.1	$1,200,000	$37,320,000
Seg 3C	73.0	$800,000	$58,400,000
Seg 4	51.0	$1,200,000	$61,200,000

All acreages are measured footprint calculations from the TxDOT-provided RID schematics. It was assumed that any changes to the general purpose or managed lane configuration would be a net overall lane number impact of zero and would not significantly effect the position of the frontage roads along the Segment. Therefore, the overall Segment footprint would remain the same. The difference in rates between Segment 2 and the other Segments are due to a qualitatively measured factor of urbanization surrounding Segment 2 between SH 121 and SH 161. It is assumed that Segment 4 will require additional ROW in a configuration other than what was provided in the RID.

Operations

Annual tolling operations for NTE Segments 2-4 will cost approximately 3.75 percent of yearly toll revenue plus a fixed value of 4.5 cents per each toll transaction (vehicle-calculated) per year. The fixed value will increase every two years, starting on the anniversary of the facility's tolling commencement, based on an escalation rate equal to 2.0 percent. Insurance for each Segment will cost approximately 0.65 percent of the yearly Segment revenue plus 0.010 percent of the overall Segment asset value.

Maintenance

Routine Roadway Maintenance costs will be approximately $13,500 per lane-mile per year for NTE Segments 2-4. Yearly Tolling System Maintenance costs will be approximately 2.60 percent of the installation costs for these systems.

Major maintenance activities will be required to maintain structures and potentially perform significant pavement overlay work. Every five years there will be a Roadway Asset Replacement activity that costs approximately $13,000 per lane-mile per event. Every 10 years there will be a Pavement Major Maintenance activity that costs approximately $95,000 per lane-mile per event. There will be a Structures Major Maintenance activity every 20 years that costs approximately $7.10 per square footage of Segment structure per event.

ITS and TCS Major Maintenance will be performed every 10 years at the approximate rate of 25 percent of the initial tolling integration construction cost. This entails systems upgrades and major hardware replacement.

The aforementioned rates are average values gathered through decades of experience in operating roadway facilities worldwide. NTEMP can leverage this breadth of experience to optimize facility costs and allow for the most valuable Facility Agreement for each Segment. Table B-15 summarizes the operations and maintenance cost data and assumptions utilized for the financial analysis of Segments 2E, 3A, 3B, 3C and 4.

Appendix E.3 contains the operation and maintenance costs distributed yearly through the life of the CDA for each Segment.

Table B-15: NTE Operations and Maintenance Costs

NTE OPERATIONS AND MAINTENANCE COSTS 2008 DOLLARS	NTE 2E	NTE 3A	NTE 3B	NTE 3C	NTE 4
YEARLY OPERATIONS COSTS					
Routine Roadway Maintenance Costs	$1,401,840	$1,313,550	$489,510	$1,287,090	$963,900
Toll Collection Costs	3.75% x Rev + 4.5 cents per Transaction	3.75% x Rev + 4.5 cents per Transaction	3.75% x Rev + 4.5 cents per Transaction	3.75% x Rev + 4.5 cents per Transaction	3.75% x Rev + 4.5 cents per Transaction
Tolling System and IT Maintenance	$527,250	$707,515	$395,429	$616,158	$467,192
Insurance	0.65% of Rev + 0.01% of Const Total	0.65% of Rev + 0.01% of Const Total	0.65% of Rev + 0.01% of Const Total	0.65% of Rev + 0.01% of Const Total	0.65% of Rev + 0.01% of Const Total
MAINTENANCE COSTS					
Pavement Major Maintenance (Every 10 Years)	$9,864,800	$9,243,500	$3,444,700	$9,057,300	$6,783,000
Structures Major Maintenance (Every 20 Years)	$25,833,208	$26,177,004	$3,193,843	$7,668,288	$10,485,500
Road Asset Replacement (Every Five Years)	$1,349,920	$1,264,900	$471,380	$1,239,420	$928,200
ITS & TCS Major Maintenance (Every Ten Years)	$5,069,708	$6,803,033	$3,802,205	$5,924,600	$4,492,235

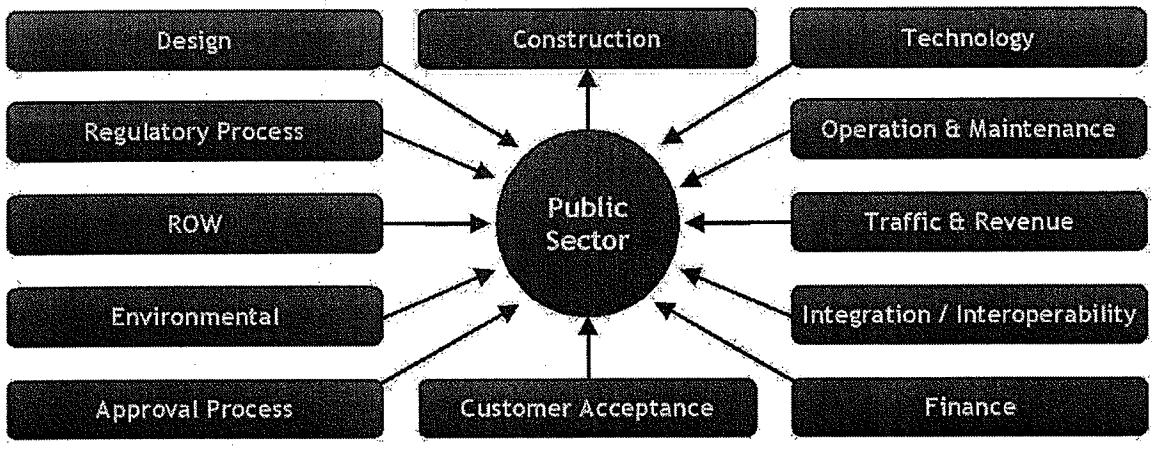
B.5.3 Project Risk Analysis

Proper risk management is of paramount importance to achieving successful implementation of all NTE Segments. A relatively simple three-phase procedure will be utilized to evaluate risks pertinent to each individual Segment.

- **Risk Identification** – All reasonable risks that could impact cost, public funding, revenue, time or overall delivery of a Segment are identified and listed.
- **Risk Analysis** – The potential risks identified are thoroughly analyzed to develop reasonable expected financial and/or schedule consequences, likelihood of occurrence and mitigation strategy.
- **Risk Allocation** – Allocation shall be made to the party best financially or organizationally suited to carry such risks.

Figure B-10 below shows a traditional allocation of risks in a design-bid-build project delivery scenario. Customarily, the public sector assumes most risks.

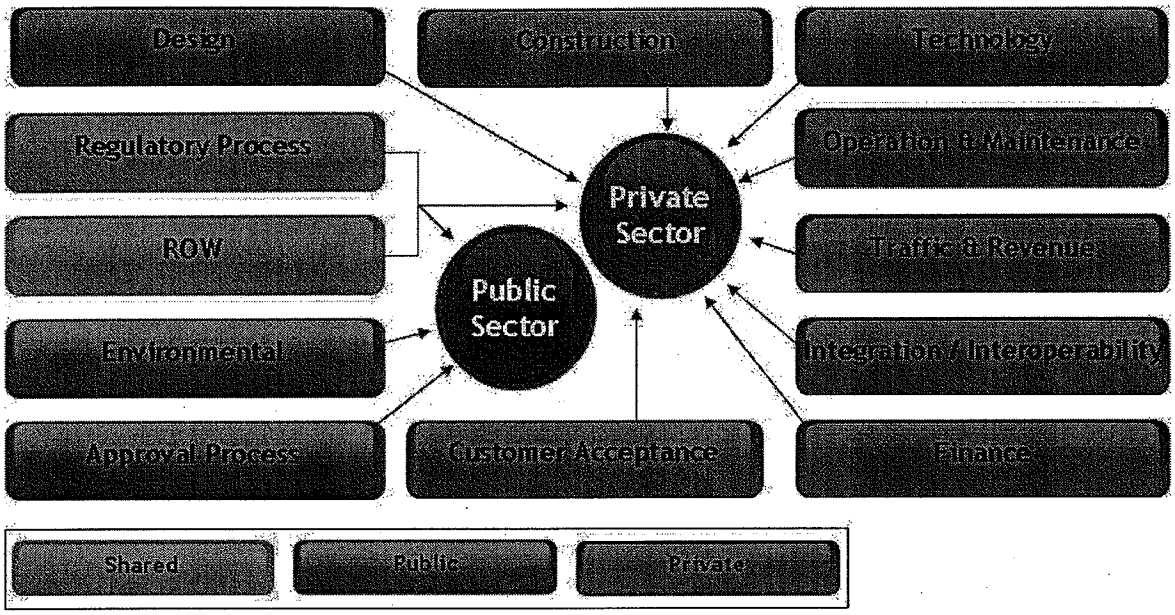
Figure B-10: Traditional Allocation of Risks



Misaligned interests between contractor and public sector

Figure B-11 illustrates a more efficient risk allocation under a Public-Private Partnership Design-Build-Finance-Operate-Maintain (DBFOM) project delivery scenario. In this type of project delivery, the majority of risk types are allocated to the private sector.

Figure B-11: Risk Allocation under a Public-Private Partnership



It is important to note that traffic and revenue risk is shifted to the private sector in this model. This risk is offset by a share in the benefit from a successfully managed Segment that is attractive to the driving public. Regardless of which project delivery method is utilized, it is important that all parties understand the assigned risks, how they will be managed, the consequences each of the risks have and how the risks can be mitigated.

NTEMP will approach overall project risk by monitoring four major groups of risks:

- Design, construction and completion risk;
- Operation, maintenance and environmental risk,
- Financial and economic risk (details of which are provided in the Conceptual Financial Plan), and;
- Political risk.

An extensive Risk Registry for Facility delivery will be finalized during the ISOW of the MDP. A preliminary Risk Registry is included as Table B-16. In the interest of focusing on the Segment development prior to detailed design-build, risks associated with the construction phase of project development have been removed from this registry. The risks associated with this phase will be largely the same as those shown for the concession facility. See the Design-Build Management and Technical Solutions section of the Concession Facility Development Plan for a discussion on these risks. Table B-17 quantifies the probability, impact and rating of several types of risks.

Table B-16: Preliminary Risk Registry

During/After Segment NTP	Risk Description	Potential Consequences	Likelihood	Risk Allocation	Risk Mitigation Strategy	Risk Sensitivity Analysis
Design / Construction Risks						
During/After	Failure/Inadequate design and/or non compliance with Design Standards & Criteria	Damage to works, delays, design, construction and/or O&M additional costs; penalties	Low	Developer	Back-to-back contract with contractor; Design audit by an independent consultant; Professional indemnity cover	N/A
During	Overloaded design & engineering market capacity	Delays, additional costs.	Low	Developer/TxDOT	Rational sequencing and phasing of the facilities	N/A
During/After	Owner directed changes and design reviews	Delays, additional costs.	Low	Developer/TxDOT	Adequate analysis prior to Facility Agreement	N/A
During/After	Changes in Design Standards & Criteria	Delays, additional costs.	Medium	Developer/TxDOT	Compensation if changes occur after Execution of Facility Agreement	N/A
During/After	Identification, requirements and agreements with utility companies	Construction delay; additional costs	Low	Developer	Early coordination	Analysis of impact of different construction period lengths and different construction prices
Political / Legal Risks						
During/After	Change in law (including taxes)	Additional cost	Medium	TxDOT/Developer	General changes in law are borne by the Developer. Discriminatory changes in law are likely borne by TxDOT. Compensation may be in the form of temporary relief from various obligations, time extension or compensation.	N/A
During/After	Change sales tax	Increased costs	Low	TxDOT	Compensation	Analysis with different sales tax rates
During/After	Breach of existing legislation	Penalties, delay, consequential losses, additional costs, loss of revenue	Low	Developer	Adequate legal advice; experienced management	N/A
During/After	Breach of obligations/agreements by private sector	Penalties, suspension of payment, suspension of performance, application of sums to credit of retention account, termination and costs	Low	Developer	Back-to-back contract with contractor; experienced management	N/A
During/After	Breach of obligations by public sector	Penalties/suspension/termination and costs	Low	TxDOT	Compensation; rights to termination	N/A
During/After	Breach of third party intellectual property rights	Penalties, damages	Low	Developer	Adequate legal advice	N/A

During/After Segment NTP	Risk Description	Potential Consequences	Likelihood	Risk Allocation	Risk Mitigation Strategy	Risk Sensitivity Analysis
During/After	Force majeure (natural catastrophes, war, sabotage, terrorism)	Delay additional costs; Parties relieved from liabilities to the extent they are not able to perform their obligations under the agreement; termination; Cancellation; costs to date; damage/reinstatement/ rectification costs	Low	TxDOT	Typically borne by the public sector, the Developer is provided with adequate compensation; relief with respect to certain contractual obligations; time extension; rights to termination	N/A
After	Protestor action, Strikes/Labor disputes	Delay, additional costs, damage	Medium	TxDOT/Developer	Compensation; time extension; rights to termination	N/A
Planning and Approval Risks						
During/After	Procurement and performance of Federal, State Agencies and Local Agencies permits and approvals (environmental and others)	Delay, increase costs; penalties; Cancellation; costs to date	Medium	Developer	Back-to-back contract with contractor	Analysis of impact of different construction period lengths
After	Planning approval overturned	Delay, increase costs, penalties Cancellation; costs to date	Low	Developer	Back-to-back contract with contractor	Analysis of impact of different construction period lengths
After	Planning approval not covering all works	Delay, increased costs; penalties; Cancellation; costs to date	Low	Developer	Back-to-back contract with contractor	Analysis of impact of different construction period lengths
Other Events						
After	Identification and establishment of ROW limits (utility easements, temporary construction easements)	Delays, increased costs	Low	Developer	Adequate control during the design process	N/A
During/After	Cost of procuring sub-contractors	Increased costs	Medium	Developer	Back-to-back contract with contractor; Quality Procedures	N/A

Table B-17: Risk Quantification

Type of Risk	Probability	Impact	Rating
Design Risks			
Failure/Inadequate design and/or non compliance with Design Standards & Criteria	1	1	1
Overloaded design & engineering market capacity	1	1	1
Owner directed changes and design reviews	1	2	2
Changes in Design Standards and Criteria	2	2	4
Identification, requirements and agreements with utility companies	1	1	1
Political/Legal Risks			
Change in law	2	3	6
Change in taxes	1	3	3
Breach of existing legislation	1	3	3
Breach of obligations/agreements by private sector	1	2	2
Breach of obligations by public sector	1	3	3
Breach of third party intellectual property rights	1	1	1
Force majeure (natural catastrophes, war, sabotage, terrorism)	1	3	3
Protestor action, strikes/labor disputes	2	1	2
Planning and Approvals Risks			
Procurement and performance of federal, state, and local agencies permits and approvals (environmental and others)	2	3	6
Planning approval overturned	1	3	3
Planning approval not covering all works	1	3	3
Other Events Risks			
Identification and establishment of ROW limits (utility easements, temporary construction easements)	1	3	3
Cost of procuring subcontractors	2	1	2

B.5.4 Conceptual Deviations from TxDOT Provided Schematics

NTEMP has reviewed the RID schematics for Segments 2-4. Initial investigation suggests that for Segments 2, 3A, 3B and 3C the overall configurations are satisfactory. This includes all interchange direct-connector arrangements, grade separation plans and ramp patterns. It is envisioned that these overall design concepts will remain throughout Segment development.

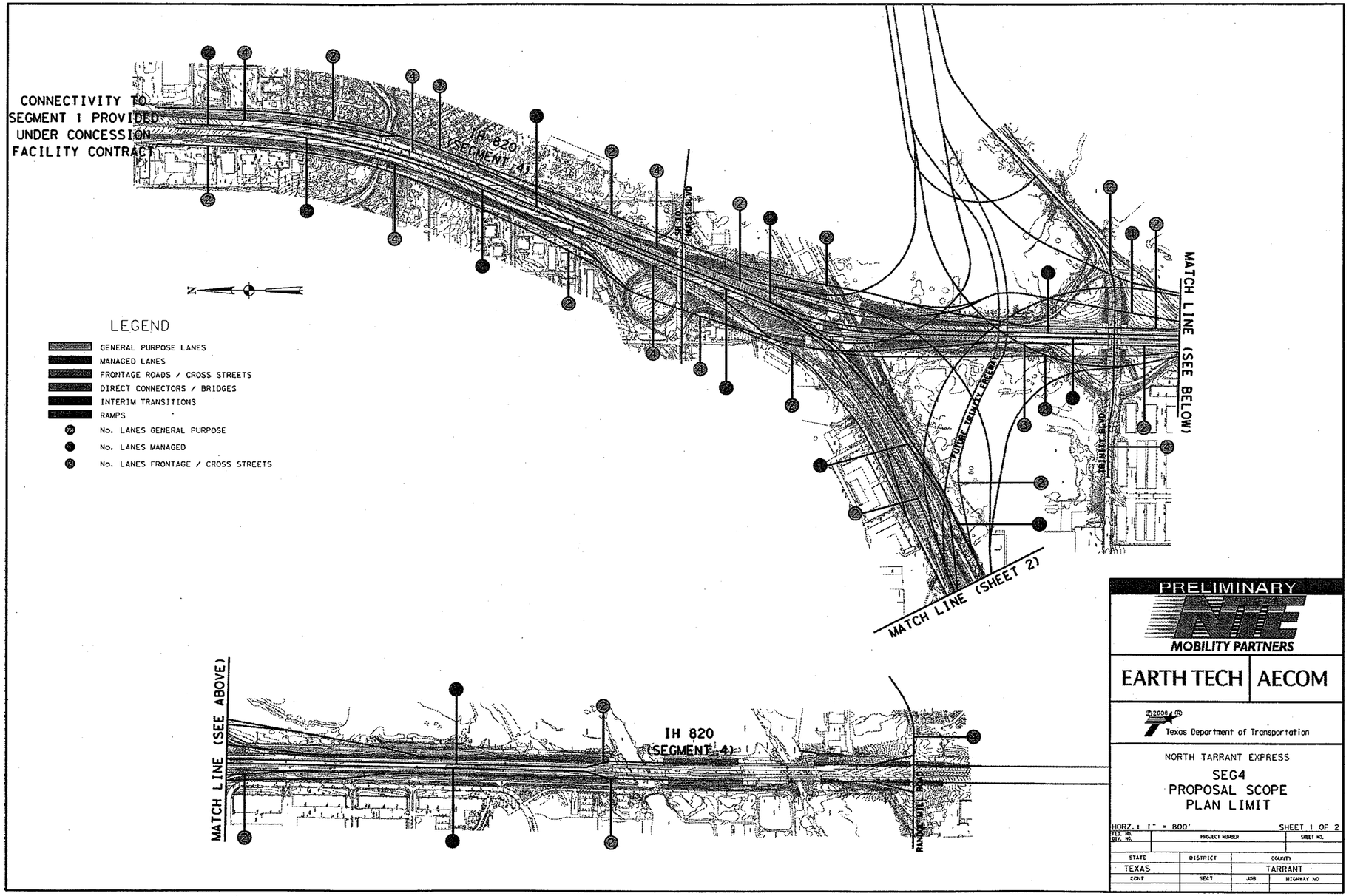
However, so that these Segments are financially feasible (and to allow for development with no additional public funds), NTEMP believes that general purpose capacity expansions must be restricted. Managed lanes will be provided to create the additional vehicle throughput on each of the Segments and general purpose lane expansion will be limited to areas necessary to serve the proposed interchange configuration – typically acceleration, deceleration and auxiliary lanes. As this proposed wholesale lane reduction concept is not a configurational change, no diagrammatic representations are provided as part of this proposal.

As previously noted, this is not intended to be an absolute long-term plan. Each Segment's Facility Agreement will likely contain general purpose expansion methodology just as that which is stipulated for the Concession Facility. Maintaining the RID schematic configurations of each of these Segments will allow for a relatively easy expansion scenario, if traffic volumes outperform expectations and provide the justification. Space for expansion will be provided in the general purpose center median. Ultimately, thorough analysis within the MDP will dictate the exact nature of capacity improvement scenarios that will be available to be included in a future Segment Facility Agreement.

The only significant deviation that NTEMP has preliminarily identified from the TxDOT RID schematics pertains to the reversible managed lanes along Segment 4. NTEMP is proposing to replace the currently contemplated reversible lanes with two concurrent-flow managed lanes in each direction. South of the interchange with the Concession Facility (Segment 1B) a pair of managed lanes in each direction will be constructed until the interchange at SH 121. At the interchange, a single lane is conceptualized to split off (each way) to provide direct managed-lane connectivity with SH 121. The remaining managed lanes will continue through the interchange maintaining a continuous flow along IH 820 to Randol Mill Rd where they will tie in to the recently constructed general purpose lanes. Figure B-12 provides a conceptual illustration of the reconfiguration of Segment 4 that NTEMP believes best fits the concept of the remaining NTE Segments and help optimize financial feasibility of Segment 4 so that its development can be accelerated.

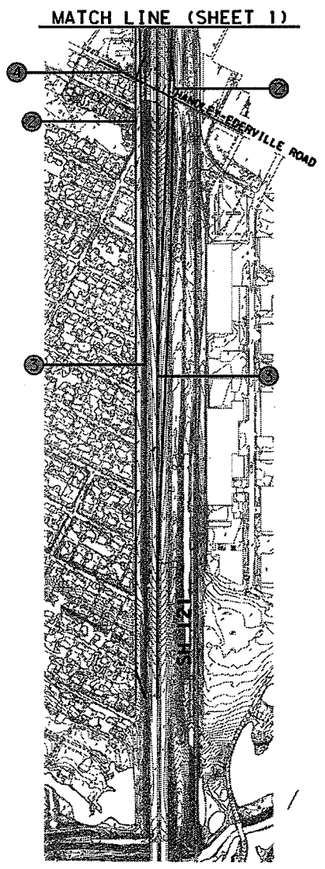
In past CDA projects, the NTEMP team has discovered minor issues with TxDOT RID schematics not fully complying with CDA technical requirements (e.g. stopping sight distance). This was also an initial issue in the IH 35W / IH 820 interchange within the Concession Facility schematic, but was subsequently addressed in an addendum to Book 2. If there were to be an issue during the development of the remaining NTE Segments, the NTEMP team has experience solving similar problems with simple solutions. Specifically, for a deficient SSD scenario, the most effective method is to merely flip inside and outside shoulders on direct connectors. This generally produces no change in construction cost. Otherwise, actions such as modifying radii, widening shoulders or documenting waivers from TxDOT at particular locations may become necessary to maintain a compliant schematic design. It should also be noted that these changes do not rise to the level of a full environmental re-evaluation. Therefore, this example scenario is not a situation that would typically impact the overall schedule.

Figure B-12: Segment 4 Proposal Scope Plan Limit



MOBILITY PARTNERS

MATCH LINE (SHEET 1)



LEGEND

- GENERAL PURPOSE LANES
- MANAGED LANES
- FRONTAGE ROADS / CROSS STREETS
- DIRECT CONNECTORS / BRIDGES
- INTERIM TRANSITIONS
- RAMPS
- No. LANES GENERAL PURPOSE
- No. LANES MANAGED
- No. LANES FRONTAGE / CROSS STREETS

PRELIMINARY

MOBILITY PARTNERS

EARTH TECH | AECOM

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NORTH TARRANT EXPRESS

SEG4
PROPOSAL SCOPE
PLAN LIMIT

HORZ. : 1" = 800' SHEET 2 OF 2

FED. RD. DIV. NO.	PROJECT NUMBER	SHEET NO.

STATE	DISTRICT	COUNTY	
TEXAS		TARRANT	
CONT	SECT	JOB	HIGHWAY NO

B.6 Facility Integration Plan

Integration with the Proposed Transportation Network

NTEMP has performed a thorough analysis of planned (or very recently let) transportation facilities in the general vicinity of the NTE Corridor so that their impact can be quantified. NCTCOG's *Mobility 2030 Plan* and TxDOT's Statewide Transportation Improvement Program (STIP) were sourced for the information. These projects are summarized in and shown graphically in Table B-18–Table B-20 and Figure B-13–Figure B-15. More details are available in the NTE Traffic and Revenue Forecasts in Appendix E.2.

Of particular note to NTEMP are the following major projects that fall adjacent to, or lie in a parallel corridor to, the Segments of NTE. Each of these improvements is deemed significant enough that it will need additional focus in the Facility Integration Plan. The construction periods must be considered to ensure efficient maintenance of traffic. Effects to financial feasibility of the Segments must be considered.

- **SH 114/121 Funnel (DFW Connector)** – Improvement along this east-west corridor has the potential to provide a significant alternative for vehicles traveling to/from northern Tarrant / southern Denton and Dallas County / DFW Airport. Also, due to their close proximity, it will be very important to maintain a consistent public relations effort as this construction will certainly overlap that of the Concession Facility construction period and potentially Segment 2E.
- **SH 170** – Adding tolled mainlanes to SH 170 at its junction with the northern terminus of the NTE will provide a potential for a direct connection into the NTE mainlanes—potentially providing a significant amount of traffic. These improvements are scheduled to occur prior to the construction of Segment 3B, so its design must be integrated into this Segment's planning process.
- **IH 820** – Similar to SH 170, improvements to IH 820 at the western connection with the Concession Facility could enhance traffic volumes to multiple NTE Segments. This is not a short-term improvement plan, so it will be most important to keep the implementation schedule current in the Traffic and Revenue projections.
- **IH 35W Managed Lanes** – Not included in the attached tables and figures is a long-range plan to include managed-lanes north of the NTE Corridor (Segment 3C) toward Denton. This is currently approximated at a 2025-2030 implementation horizon. Segment 3C will have been opened prior to this date, but, again, it will be important to recognize the impact this construction could have on volumes (both during and after construction)
- **DFW Airport East-West Connection** – Also not included in the attached tables and figures is the current planning of a new-location route parallel to US 183 on DFW Airport property. This could potentially provide an airport connection competing with the existing International Pkwy / US 183 interchange that could draw a portion of overall traffic from the NTE corridor.

The preliminary Traffic and Revenue forecasts for Segments 2-4 have been performed to be reflective of much of these proposed changes to the surrounding transportation network. However, as adjacent plans are more clearly defined, so will be the revenue forecast. This impact could be a net positive or negative. It will be ultimately quantified as a component of the Milestone 4 Project Risk Analysis and be refined within the Preliminary Traffic and Revenue.

Table B-18: Planned Roadway Improvements 2007-2009

ID	Road Name	Road Section		MTP Projects		Year
		From	To	Previously	Upgraded Condition	
1	FM 156	US 81/287	Watauga Rd (McElroy)	2 lanes	4 lanes (TIP: LET: 9/2007)	2007
2	E 1st St	Beach St	Oakland Blvd	2 lanes	4 lanes (TIP: LET: 9/2007)	2007
3	SH 161	IH 20	Rock Island Road		6 frontage Roads	2008
4	Rosedale St	South Riverside Drive	US 287	4 lanes	6 lanes (TIP: LET: 12/2007)	2008
5	BS 287 Rosedale St	IH 35W	South Riverside Drive	4 lanes	6 lanes (TIP: LET: 12/2007)	2008
6	Precinct Line Rd	SH 10	Concho Trail	2 lanes	4 lanes (TIP: LET: 3/2008)	2008
7	SH 26	Brumlow Rd	SH 114	4 lanes	6 lanes (TIP: LET: 5/2009)	2009

Source: Texas Department of Transportation (TxDOT) and North Central Texas Council of Governments (NCTCOG: Transport Improvement Programs and Mobility 2030)

Figure B-13: Planned Roadway Improvements 2007-2009

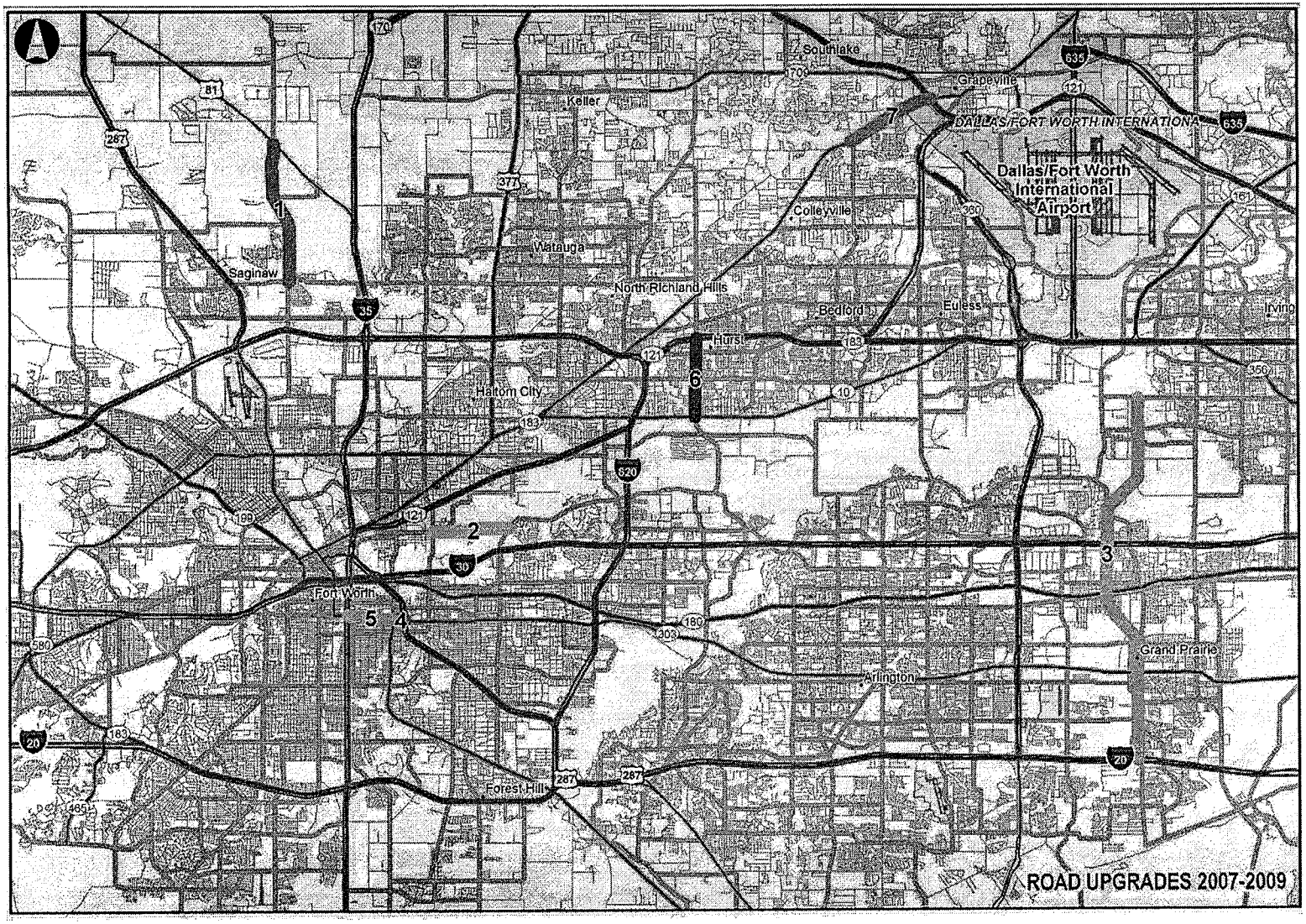


Table B-19: Planned Roadway Improvements 2009-2015

ID	Project	Road Name	Road Section		MTP Projects		Year
			From	To	Previously	Upgraded Condition	
1	Dallas-Fort Worth Regional Outer Loop System	IH 20 (frontage roads)	Robinson Rd	FM 1382	0 lanes	4/6 (FRTG)	2015
2-1		IH 30 - Dallas County	SH 161	East of MacArthur Blvd (frontage roads)	No Road	4/6 (FRTG)) (TIP: LET: 2/2008)	2015
2-2		IH 30 - Dallas County	SH 161	Loop 12	6 lanes	8 + 2/3 (HOV-R)	2015
2-3		IH 30 - Dallas County	Loop 12	IH 35E	6 lanes	8 + 2/3 (HOV-R)	2015
3		IH 30 - Tarrant County	Cooper St	Ballpark Way	6 lanes	10 + 3 C-D (WB Only) + 2 (HOV-R) (8lanes tolled - TxDOT)	2015
4	Loop 12/IH 35E	Loop 12	IH 35E	SH183	6 lanes	8 + 2 (HOV-R)	2015
5-1	SH 114/SH 121 Funnel	SH 114	Kimball Ave	SH 121 (W)	4 lanes	8 lanes separate managed freeway w/ 4 lanes - TxDOT) + 4 frontage roads email	2015
5-2		SH 121	IH 635	SH 114	8 lanes	10 + 9 C-D (TIP: 4 lane separate freeway LET: 8/2007)	2015
5-3		SH 121	SH 114	SH 360	4 lanes	6 + 7 C-D (TIP: 8/10 lane freeway, ramps & frontage LET: 9/2008) + 4 frontage rds email	2015
5-4		SH 360	SH 121	Euless-Grapevine Rd	4 lanes	6 lanes	2015
5-5		IH 635	SH 121	Royal Lane	6 lanes	10 lanes	2015
6-1	SH 121 Southwest Parkway	SH 121	IH 30	IH 20	0 lanes	6 lanes toll	2015
6-2		SH 121	IH 20	Altamesa Blvd	0 lanes	6 lanes toll	2015
6-3		IH 30	SH 121	Henderson St	6 lanes	8 lanes	2015
6-4		IH 30	Henderson St	IH 35W	8 lanes	10 lanes	2015
7-1		SH 161	PGBT/Belt Line Rd	SH 183	4 lanes	8 lanes	2015
7-2		SH 161	SH 183	IH 30	0 lanes	6 lanes toll	2015
7-3		SH 161	IH 30	IH 20	0 lanes	4 lanes toll	2015
8-1		SH 161/SH 360 Toll Connector	SH 161	Great Southwest Parkway (IH 20)	8 lanes	8 + 4 C-D toll	2015
8-2		SH 161/SH 360 Toll Connector	Great Southwest Parkway (IH 20)	SH 360 (IH 20)	8 lanes	8 + 4 C-D toll	2015
9-1		SH 170	SH 114	IH 35W	6 (FRTG)	4 lanes toll	2015
9-2		SH 170	IH 35W	US 81/US 287		6 lanes toll	2015

Source: Texas Department of Transportation (TxDOT) and North Central Texas Council of Governments (NCTCOG: Transport Improvement Programs and Mobility 2030)

Figure B-14: Planned Roadway Improvements 2009-2015

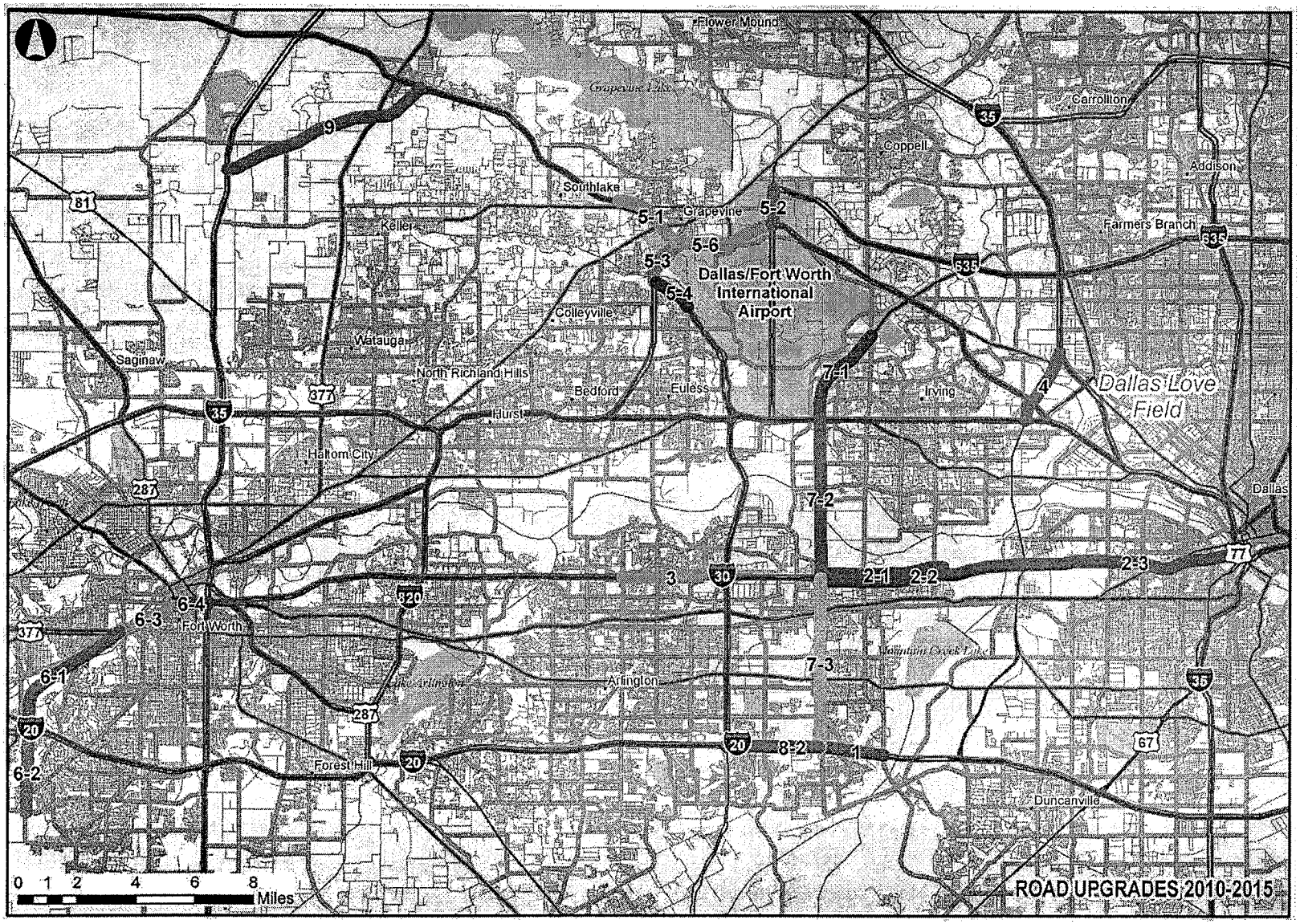
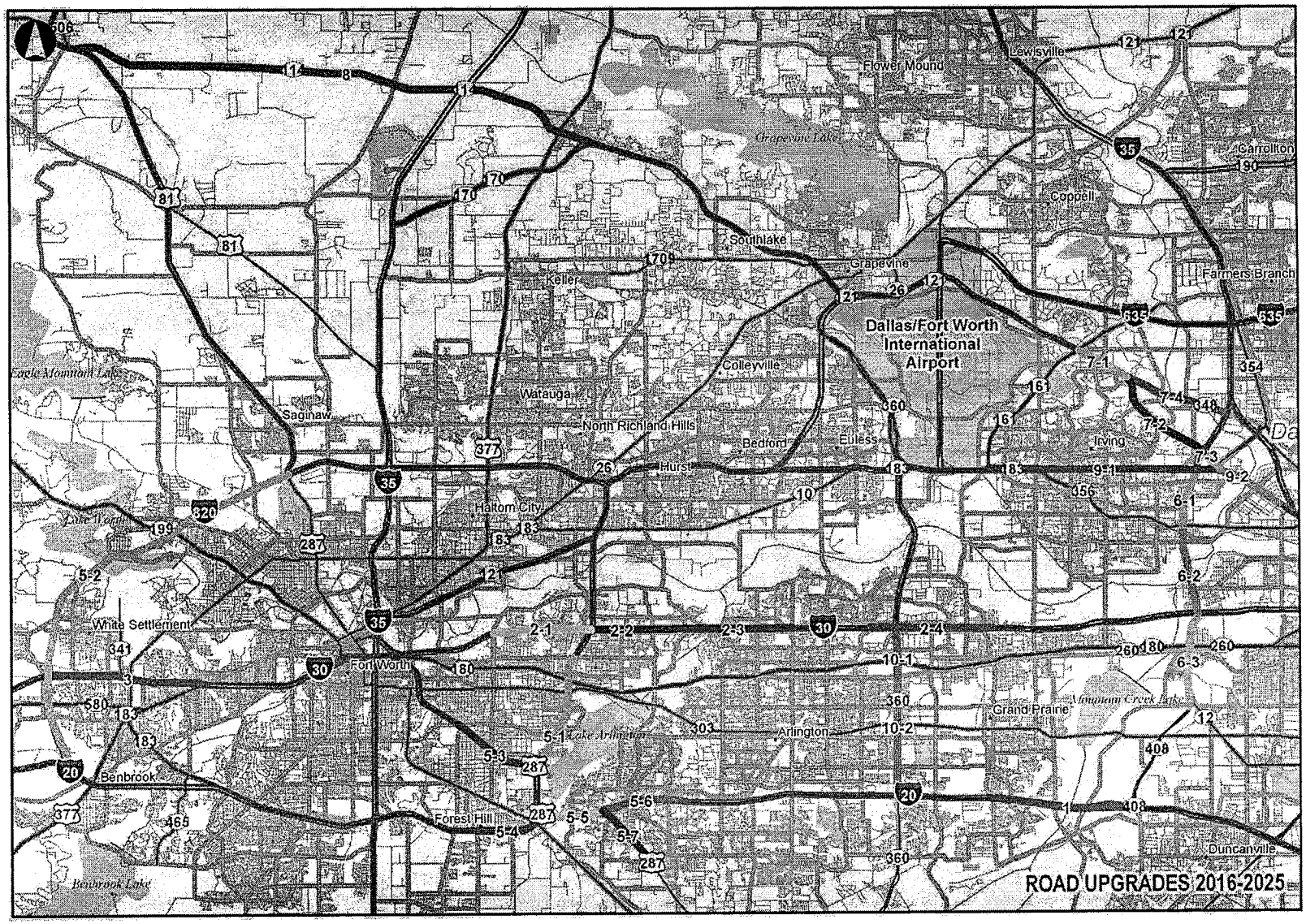


Table B-20: Planned Roadway Improvements 2016-2030

ID	Project	Road Name	Road Section		MTP Projects		Year
			From	To	Previously	Upgraded Condition	
1	Dallas-Fort Worth Regional Outer Loop System	IH 20 - Dallas County	SH 161	Spur 408	8 lanes	10 lanes	2025
2-1		IH 30 - Tarrant County	Oakland Blvd	IH 820	6 lanes	8 lanes	2025
2-2		IH 30 - Tarrant County	IH 820	Cooks Lane	6 lanes	10 + 1 (HOV-R)	2025
2-3		IH 30 - Tarrant County	Cooks Lane	Cooper St	6 lanes	10 + 2 (HOV-R) (8lanes tolled - TxDOT)	2025
2-4		IH 30 - Tarrant County	Ballpark Way	SH 161	6 lanes	10 + 2 (HOV-R)	2025
3		IH 30 - West Freeway	Spur 580	IH 820 (West)	4 lanes	6 lanes	2025
4	IH 30/US 80 East Corridor	IH 35E - "Northern Link"	PGBT	IH 635	6 + 2 (HOV-C)	10 + 2 (HOV-R) + (2-3 frontage rds - TxDOT)	2025
5-1	IH 820 Southeast Corridor	IH 820/US 287	Meadowbrook Drive	US 287	4 lanes	8 lanes	2025
5-2		IH 820/US 287	US 287	IH 20	8 lanes	12 + 2 (HOV-R)	2025
5-3		IH 820/US 287	Berry St	IH 820 (US 287)	6 lanes	6 + 2 (HOV-R)	2025
5-4		IH 20/US 287	Forest Hill Drive	IH 820	8 lanes	10 lanes	2025
5-5		IH 20/US 287	IH 820	US 287	10 lanes	14 + 2 (HOV-R)	2025
5-6		IH 20/US 287	US 287	Park Springs Blvd	8 lanes	8 + 1 (HOV-R)	2025
5-7		IH 20/US 287	IH 20	Sublett Rd (US 287)	4 lanes	4 + 1 (HOV-R)	2025
6-1	Loop 12/IH 35E	Loop 12	SH183	SH 356	6 lanes	8 + 2 (HOV-R)	2025
6-2		Loop 12	SH 356	IH 30	8 lanes	8 + 2 (HOV-R)	2025
6-3		Loop 12	IH 30	Spur 408	8 lanes	8 + 1 (HOV-R)	2025
7-1	Project Pegasus	SH 114 - Dallas County	SH 121	Spur 348	6 lanes	8 + 4 (HOV-C) + 4 continuous frontage rd lanes	2025
7-2		SH 114 - Dallas County	Spur 348	Loop 12	4 lanes	8 + 4 (HOV-C) + 4 continuous frontage rd lanes	2025
7-3		SH 114 - Dallas County	Loop 12	SH 183	4 lanes	6 + 4 (HOV-C) + 4 continuous frontage rd lanes	2025
7-4		SH 114 - Dallas County	SH 114	Luna Rd (Spur 148)	4 (ART)	6 lanes	2025
8		SH 114 - Denton County	IH 35W	SH 170	4 (FRTG)	6 lanes	2025
9-1	SH 121 Southwest Parkway	SH 183	SH 161	SH 114	6 lanes	8 + 4 (HOV-C) + (frontage - TxDOT) (TIP: LET: 1/2010)	2025
9-2		SH 183	SH 114	Trinity Parkway	8 lanes	10 + 6 (HOV-C)	2025
9-3		SH 183	Trinity Parkway	IH 35E	8 lanes	6 + 2 C-D toll (3 concurrent managed lanes - TxDOT)	2025
10-1		SH 360	IH 30	Abram St	6 lanes	8 lanes	2025
10-2		SH 360	Abram St	IH 20	6 lanes	8 lanes	2025

Source: Texas Department of Transportation (TxDOT) and North Central Texas Council of Governments (NCTCOG: Transport Improvement Programs and Mobility 2030)

Figure B-15: Planned Roadway Improvements 2016-2030



Tolling Integration

The NTE Segment Integration Plan will not be limited to just the physical characteristics of the surrounding transportation network. The tolling infrastructure must also be compatible with surrounding facilities. The toll collection system on NTE will be an all-electronic Toll Collection System (ETCS) that generates accurate toll transactions from either transponder or video transactions for all vehicles traveling through the Segments. Each Segment will be integrated into the information backbone provided in Concession Facility construction. The ETCS will be based on the vehicle classification and the mainlane and ramp tolling points and will not be designed or equipped to accept cash. Customers will be able to contact and conduct business with the NTTA Customer Service Center (CSC) in person, by phone or via the Internet. The ETCS hardware and software utilized will be the same at each toll zone on all Segments regardless of the location with only minor adjustments required due to site-specific geometrics.

The ETCS will be modular with an open architecture, composed of commercially available hardware components, so that as new technologies emerge and improved components come to market, they can be easily added or integrated into the system to improve performance and/or reliability. The ETCS will be designed with redundant components to minimize the risk of lost revenue due to system degradations or malfunctions and to meet or exceed industry, NEC, TxDOT and NTTA Standards and all CDA requirements. If there is a conflict between any of the standards and CDA requirements, the more stringent requirement will apply to the ETCS design. The ETCS shall be interoperable with all transponders issued by tolling authorities sanctioned by TxDOT. The ETCS host will be connected to and interface with the NTTA CSC host in accordance with the NTTA Interface Control Document (ICD).

The NTTA CSC and back office operations will receive and process all revenue transactions in accordance with the ICD and the Tolling Services Agreement. Services that NTTA will provide in accordance with the Tolling Services Agreement include:

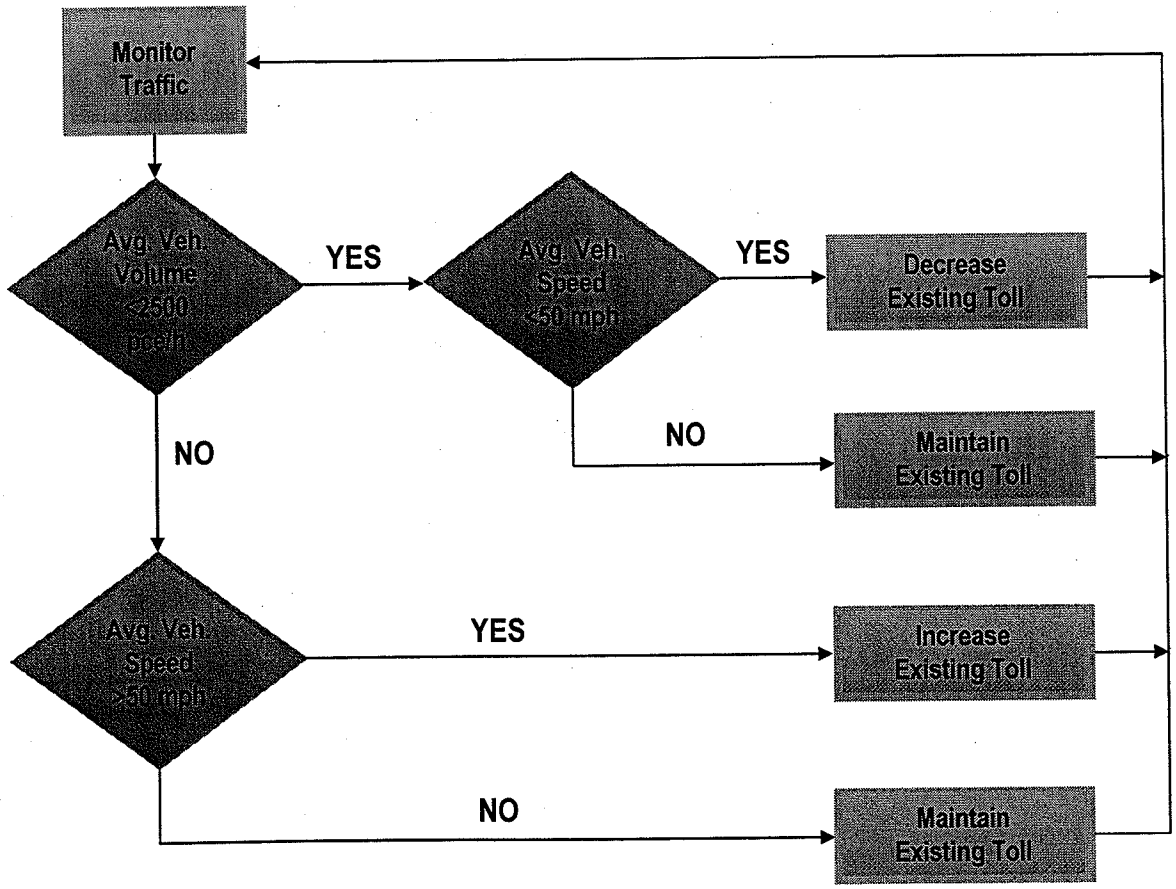
- Utilizing and making available NTTA's existing CSC and handling customer inquiries and complaints.
- Providing account management and other back office services.
- Posting Toll Tag transactions to customer accounts.
- Providing interoperability functions.
- Processing video transactions.
- Providing toll collection enforcement services, which shall include transmittal of violation notices, collection efforts (including, at NTTA's option, utilization of a third party collection agency) and other actions permitted by applicable Law (including court action) and in accordance with the Performance Standards and the practices and procedures that NTTA follows in respect of its own facilities.
- Making payments to the developer for Video Transactions and Toll Tag Transactions

All services provided by NTTA shall be in accordance with the Toll Services Agreement between NTTA and the Developer and meet the service performance standards.

Managed Lane Operations – It is assumed that operations for the Segment 2-4 managed lane system will follow a very similar schedule to that which is provided for the Concession Facility. For the initial 180 days, the managed lanes will operate in schedule mode. Under this schedule mode, tolls will be static and will

only be adjusted every month in response to changes in demand on the managed lanes. After the initial period, congestion pricing will be implemented where the tolls on the managed lanes will be changed up or down dynamically, based on detected speeds and/or travel time differentials between the managed lanes and the adjacent general purpose lanes. The ITS Radar Traffic Management Sensors (RTMS) will monitor speed and volume. These will be integrated into the ETCS to determine speed and volume differential between the general purpose lanes and the tolled lanes. Tolls will be automatically adjusted based on established parameters. For example, if the managed lanes are operating at higher speeds and lower volumes than the general purpose lanes, the tolls will be progressively decreased to increase the attractiveness of the managed lanes and alleviate the burden on the general purpose lanes. A balance is eventually reached between travel time and cost of the trip on the managed lanes. Conversely, if the managed lane speeds are lower and the volumes are equal to or higher than the free lanes, then the tolls are progressively adjusted upward to maintain the same equilibrium. See Figure B-16 for a graphical depiction of the operational toll adjustment based on managed lane traffic characteristics.

Figure B-16: Tolling Operations Flowchart



B.7 Right-of-Way Process

Corridor Preservation Techniques

A "corridor" is defined as "the path of a transportation facility that already exists or may be built in the future." The American Association of State Highway and Transportation Officials (AASHTO) defines corridor preservation as "a concept utilizing the coordinated application of various measures to obtain control of or otherwise protect the Right of Way for a planned transportation facility." These techniques are described briefly below.

Options to Purchase

To preserve future potential NTE Facility locations, TxDOT may enter into an agreement with a willing landowner for an option to purchase the property at a future date. For this option, the landowner will be paid a fee and forgo additional development on the property. The option period is limited to a maximum of five years, but may be renewed. If TxDOT chooses to buy the land, the landowner would be paid an additional sum based on the fair market value of the property. The price of the land can be negotiated at the time of the purchase of the option and signing of the contract, or if the parties would rather wait, the price can be established by an appraisal methodology to be described in the option contract and utilized at the time the option is exercised and the property actually purchased. The State cannot use eminent domain to acquire options.

Access Management

Access management is a cooperative effort between TxDOT and local municipalities to effectively manage land use with transportation efficiency and safety along corridors on the State Highway system. Access management can be effectively applied to planned or existing transportation facilities. Access management is especially important in the preservation of capacity on existing transportation facilities.

There exists a definite opportunity to generate revenue dedicated specifically to NTE Corridor development. A portion of the tax revenue created from the incremental increase of property value at parcels adjoining the ROW of improved NTE Segments could be potentially apportioned to Corridor expansion and/or maintenance. The viability of this tax reinvestment zone concept will be highly dependent on the final financial profile of each Segment, the condition of the adjacent ROW and coordination with local municipalities. For example, if a Segment exhibits a self-sufficient revenue profile, it will not be necessary to explore such an option.

Although significant unknown factors certainly exist about a financing source of this type, this is an example of the kind of creative value capture opportunities that the NTEMP team plans to jointly explore and coordinate with TxDOT during the MDP and MFP process.

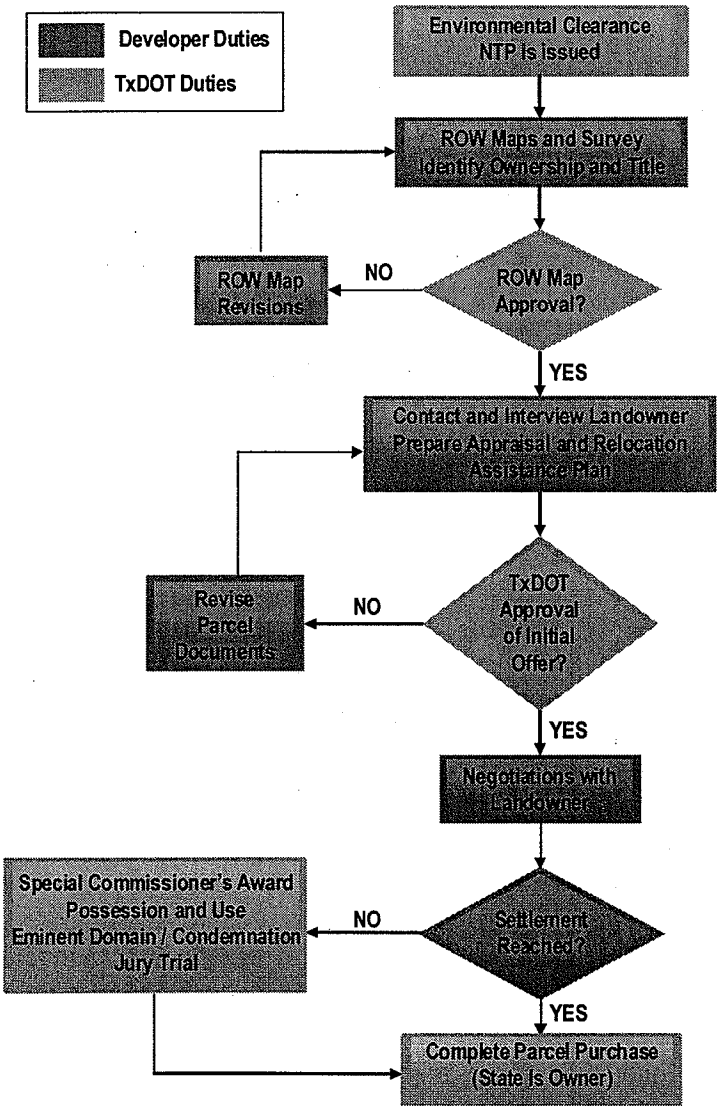
The ROW acquisition process

The ROW acquisition process for NTE Segments 2-4 must follow the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the Uniform Act or URA), and all current amendments to the Uniform Act. All current TxDOT regulations, policies and procedures, as set forth in its *Right of Way Manual*, and used in the acquisition process for all roadway and/or highway projects, will be

applicable. Other Federal and State laws, where applicable, will also be observed. Figure B-9 depicts this process.

TxDOT will oversee ROW acquisition procedures, and the State of Texas will be the record titleholder (owner) to all ROW acquired for a Facility. NTEMP may perform certain functions of the ROW acquisition process as a quasi-agent for TxDOT to complete the purchase of all real property or real property interests in a proposed Segment.

Figure B-9: ROW Acquisition Process



B.8 Phasing and Sequencing Report

The vision for the NTE Project is to deliver a new viable transportation network as soon as possible to help relieve existing congestion and improve safety. The main criterion for prioritizing the Segments is

minimizing the use of public funds and opening the facilities as soon as possible. An important component of Segment sequencing is a review of the potential month-by-month "burn rate" of activities as a check on overloading the local industry. Figure B-17 displays NTEMP's proposed Segment development cost distribution in a graph over time. Resource leveling of the "peaks" within this graph will be an evaluation component of the sequencing report alongside the more traditional drivers of phased Segment development such as overall financial sustainability.

Figure B-17: Segment Development Cost Distribution

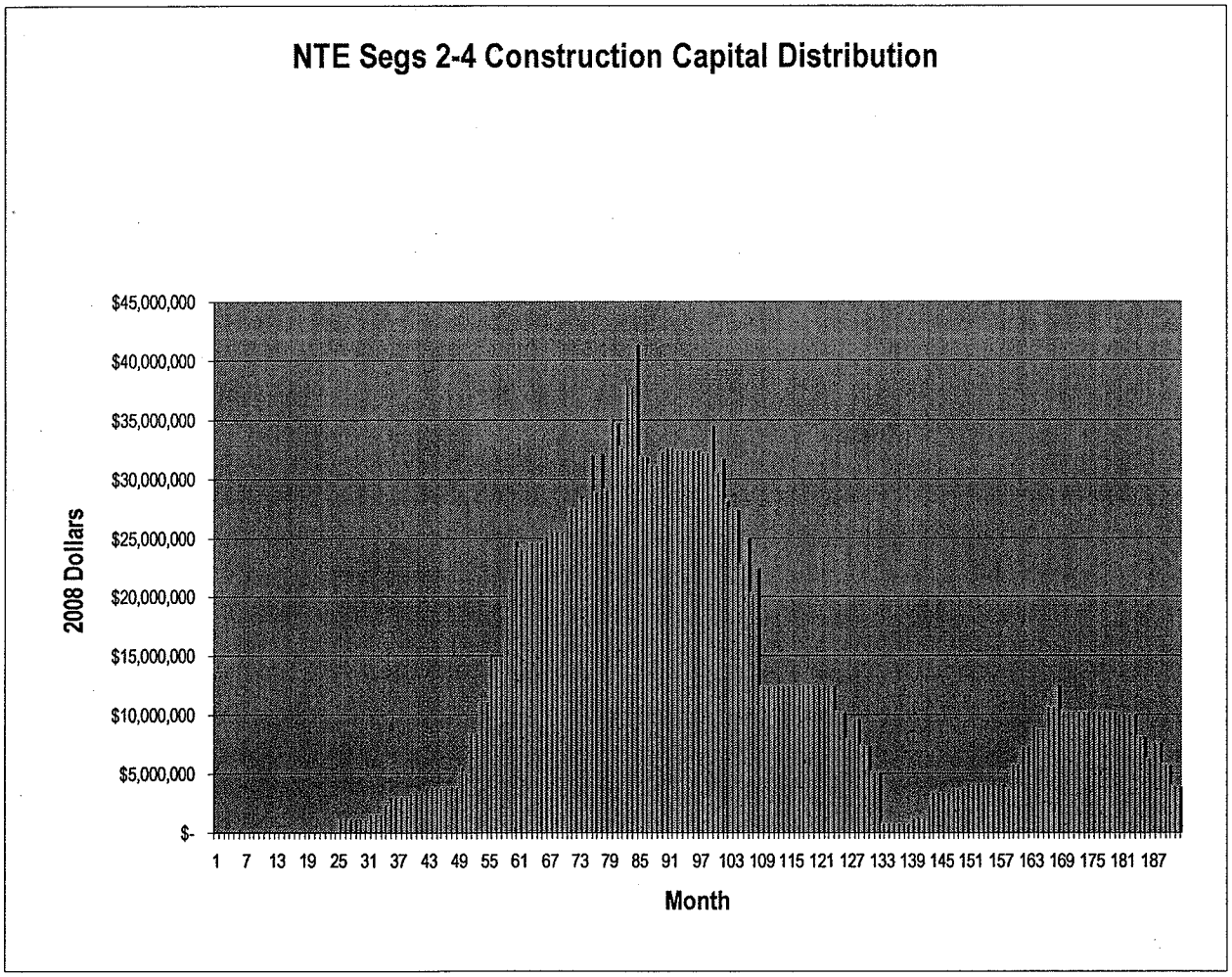


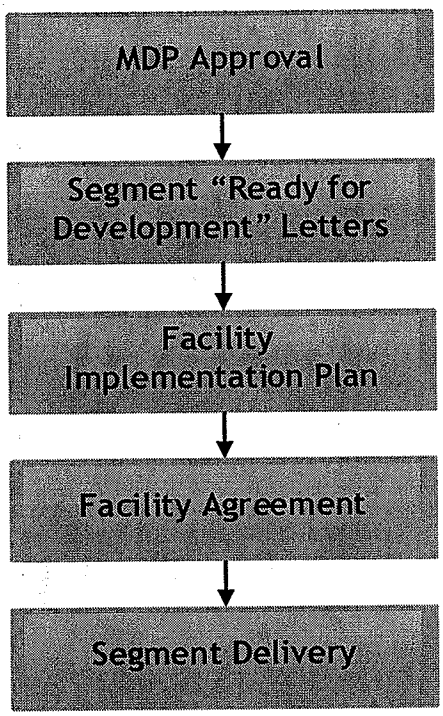
Table B-21 presents anticipated key dates for the ISOW period and the transition into development of the first of the Segments to be delivered.

Table B-21: Anticipated Key Project Dates

NTE SEGMENTS 2-4 - INITIAL KEY PROJECT DATES				
	2009	2010	2011	2012
ISOW and Segment Development Milestones	J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J
NTP 1 Segs 2-4 CDA	✪ March 31, 2009			
TxDOT Approval of Consolidation of PMP/QMP	✪ June 5, 2009			
TxDOT Approval of ISOW Schedule / Issuance of ISOW NTP 2	✪ June 5, 2009			
Begin Segments 2-4 - ISOW Milestones 2-4	✪ June 5, 2009			
FONSI Expected for 3A, 3B, 3C	✪ October 15, 2009			
End of Environmental Challenge Period for 3A, 3B, 3C	✪ April 15, 2010			
MDP Acceptance / End of ISOW	✪ September 24, 2010			
Developer Issues Segment Ready for Development Letters	✪ October 1, 2010			
TxDOT Approves Ready for Development Letters / Facility NTP 1	✪ November 1, 2010			
First Facility FIP Prepared and Submitted (80 days assumed)	✪ January 1, 2011			
FIP Approval / Facility NTP 2	✪ March 1, 2011			
End of Facility Development Work (120 days assumed) / Facility NTP 3	✪ July 1, 2011			
Financial Close (Facility NTP 3 + 45 days)	✪ September 15, 2011			

The flowchart in Figure B-18 shows the major milestones leading to Segment delivery following completion of the MDP.

Figure B-18: Key Tasks to Completion



When deemed Ready for Development, detailed activities for the individual segments will essentially follow the typical WBS activities provided in Figure B-19.

Summing the assumed tasks required for the overall development for each of the Segments and factoring in the preliminary perceived benefits to the overall corridor, NTEMP has created a Conceptual Phasing Schedule for the Project (Figure B-20) NTEMP believes this overall plan best delivers all NTE Segments in their entirety and in the most efficient manner – thereby providing the most benefit to the driver. This schedule assumes self-performance by NTEMP to deliver each Segment. Should certain Segments be delivered with other methods, the schedule could be significantly different. It is important to note that under this conceptual plan NTEMP expects that no additional public subsidy will be utilized for the development costs of Segments 2, 3A, 3B, 3C and 4.[1]

[1] Per Section 4.2.2, Exhibit D of the Instructions to Proposers

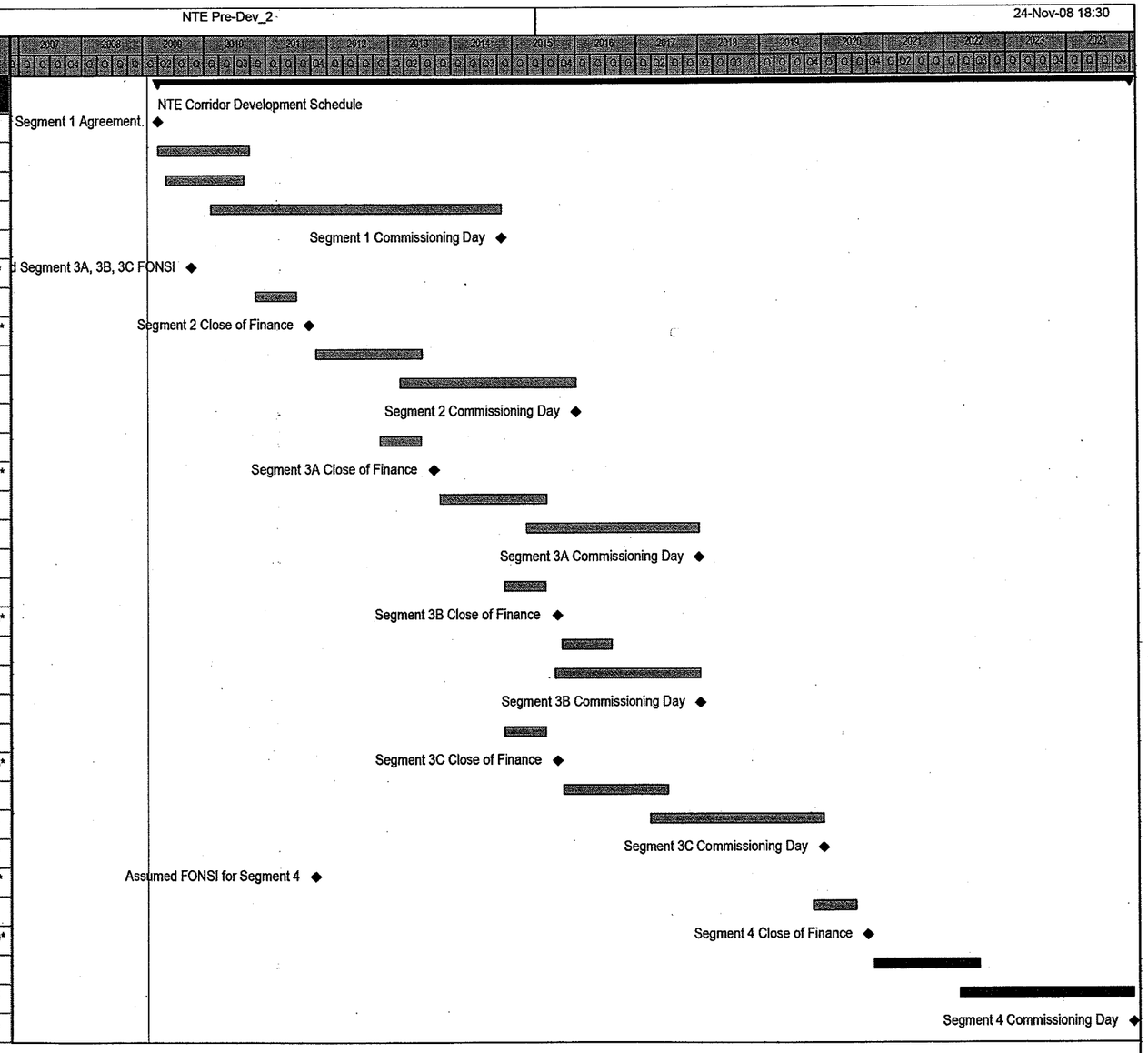
Figure B-19: Conceptual Segment WBS

04	Segments 2-4 (Typical)	This element includes all items required for a prototype typical Segment that has been identified
04.01	**Pre-Agreement**	**This element includes the work required from the agreement that a Segment is Ready for Development until a Facility Agreement has been reached**
04.01.01	**FIP Preparation**	**This element includes the development of the Facility Implementation Plan document. It identifies all work that will be accomplished during the FIP and will combine elements of T&R, schematic design, and financial analysis.**
04.01.02	**FIP Performance**	**This element includes the work that was identified in the FIP agreement**
04.01.03	**Traffic and Revenue**	**This element includes the work necessary to prepare traffic projections, and the associated revenue from that traffic**
04.01.03.01	Traffic Modeling	This element includes the work necessary to develop traffic projections into the future for the expected life of the Segment under the CDA. For automobile and truck Facilities, the traffic projections will begin based on the Texas Statewide Analysis Model (SAM) or NCTCOG's regional model, and then be refined by a more detailed study by an independent T&R Engineers
04.01.03.02	Revenue Projections	This element includes the estimation of potential revenue stream from the users fees, pass-through tolling, lease or other source
04.01.04	**Schematic Design**	**This element includes the work necessary to prepare segment schematic design plans to be Development-Ready. This includes potentially optimizing a configuration for financial feasibility or splitting into sub-segments for phased implementation.**
04.01.05	**Financial Analysis**	**This element includes the work to combine the Facility's costs and potential revenues with available funding sources**
04.01.05.01	Financial Modeling	This element includes the combination of the Facility's costs and potential revenue over the life of the Facility to determine the basic balance sheet for the Facility
04.01.05.02	Funding Sources	This element includes the identification of all potential funding sources for the Segment
04.01.06	**Facility Agreement**	**This element includes the work to develop and negotiate the Facility Agreement that will bind the State and the Developer together for a particular Facility**
04.02	**Segment Delivery**	**This element includes the work to design and construct the facility**
04.02.01	**Right-of-Way**	**This element includes the work necessary to acquire real property in the name of the State of Texas to be able to construct the Segment**
04.02.01.01	ROW Determination	This element includes the work necessary to delineate the ROW required for the Segment. This will be based on the preliminary design schematics
04.02.01.02	ROW Documents	This element includes the development of the ROW Maps, Legal Descriptions and Parcel Exhibits necessary for ROW acquisition
04.02.01.03	ROW Acquisition	This element includes the work necessary to acquire the real property in the name of the State of Texas. This includes the appraisal of the property, offer, legal transfer, and potential required condemnation procedures
04.02.02	**Design and Engineering**	**This element includes the engineering effort to fully design the Segment for construction**
04.02.02.01	Utilities	This element includes the design work necessary to relocate utilities in conflict with the Segment and to design the utilities necessary to serve the Segment
04.02.02.02	Earthwork	This element includes the design of all earthwork and grading necessary for the Segment
04.02.02.03	Roadways	This element includes the design of all roadways including mainlanes, ramps, frontage roads and cross streets that are a part of the Segment
04.02.02.04	Drainage	This element includes the design of all drainage including culverts, open channels and closed pipe systems necessary for the Segment
04.02.02.05	Structures	This element includes the design of all structures including overpasses, underpasses, water crossing bridges and major interchanges required for the Segment
04.02.02.06	Signing/Striping	This element includes the design of traffic-related signing and striping required for the Segment
04.02.02.07	Signals and Illumination	This element includes the design of traffic signals, and illumination including safety lighting, overpass and underpass lighting and high mast lighting required for the Segment
04.02.03	**Construction**	**This element includes the construction of the Segment**
04.02.03.01	Utilities	This element includes the construction of all utilities in conflict with the Segment and the utilities necessary to serve the Segment
04.02.03.02	Earthwork	This element includes the earthwork and grading necessary for the Segment
04.02.03.03	Roadways	This element includes the construction of all roadways including mainlanes, ramps, frontage roads and cross streets that are a part of the Segment
04.02.03.04	Drainage	This element includes constructing all required drainage features including culverts, open channels and closed pipe systems necessary for the Segment
04.02.03.05	Structures	This element includes constructing all required structures including overpasses, underpasses, water crossing bridges and major interchanges for the Segment
04.02.03.06	Signing/Striping	This element includes constructing the traffic-related signing and striping required for the Segment
04.02.03.07	Signals and Illumination	This element includes constructing of traffic signals, and illumination including safety lighting, overpass and underpass lighting and high mast lighting required for the Segment
04.02.04	**Testing and Commissioning**	**This element includes all testing and checkout for the Segment**
04.02.04.01	Individual Systems Test / Checkout	This element includes the testing and checkout of individual systems on the Segment
04.02.04.02	Integrated Test / Checkout	This element includes the testing and checkout of all integrated systems on the Segment
04.02.04.03	Operational Checkout / Commissioning	This element includes the operational checkout and commissioning of the entire Segment immediately prior to opening
04.02.05	**Operation and Maintenance**	**This element includes the work required after the Segment is constructed and commissioned**
04.02.05.01	Administration	This element includes the day to day activities of administering the Segment. This includes any toll collection and cash control for the Segment
04.02.05.02	Operation	This element includes the operation of the physical Segment itself. This includes staffing toll collection lanes, call centers, safety response teams
04.02.05.03	Maintenance	This element includes the routine and emergency repair and maintenance during the life of the Segment

Figure B-20: Conceptual Combined Schedule of Project Delivery

NTE Corridor Development Schedule — NTE Pre-Dev_2 — 24-Nov-08 18:30

Activity ID	Activity Name	Original Duration	Start	Finish
NTE Corridor Development Schedule		3938	31-Mar-09	02-Jan-25
NTE NTP1	Execution of CDA / Execution of Segment 1 Agreement	0	31-Mar-09*	
NTE MDP	NTE Corridor ISOW and Pre-Development Phase	375	01-Apr-09*	24-Sep-10
NTE Seg1.1	Segment 1 Design Phase (Approximate)	320	19-May-09	25-Aug-10
NTE Seg1.2	Segment 1 Construction Phase (Approximate)	1180	08-Feb-10	24-Oct-14
NTE Seg1.3	Segment 1 Commissioning Day	0		24-Oct-14
NTE Seg2-3 EA	Assumed Segment 3A, 3B, 3C FONSI	0		15-Oct-09*
NTE Seg2.1	Segment 2 Development Phase	165	02-Nov-10	01-Jul-11
NTE Seg2.2	Segment 2 Close of Finance	0		15-Sep-11*
NTE Seg2.3	Segment 2 Design Phase	430	24-Oct-11	12-Jul-13
NTE Seg2.4	Segment 2 Construction Phase	710	04-Mar-13	04-Jan-16
NTE Seg2.5	Segment 2 Commissioning Day	0		04-Jan-16
NTE Seg3A.1	Segment 3A Development Phase	165	05-Nov-12	05-Jul-13
NTE Seg3A.2	Segment 3A Close of Finance	0		16-Sep-13*
NTE Seg3A.3	Segment 3A Design Phase	430	22-Oct-13	14-Jul-15
NTE Seg3A.4	Segment 3A Construction Phase	700	16-Mar-15	02-Jan-18
NTE Seg3A.5	Segment 3A Commissioning Day	0		02-Jan-18
NTE Seg3B.1	Segment 3B Development Phase	165	05-Nov-14	07-Jul-15
NTE Seg3B.2	Segment 3B Close of Finance	0		15-Sep-15*
NTE Seg3B.3	Segment 3B Design Phase	200	13-Oct-15	29-Jul-16
NTE Seg3B.4	Segment 3B Construction Phase	580	04-Sep-15	03-Jan-18
NTE Seg3B.5	Segment 3B Commissioning Day	0		03-Jan-18
NTE Seg3C.1	Segment 3C Development Phase	165	04-Nov-14	06-Jul-15
NTE Seg3C.2	Segment 3C Close of Finance	0		15-Sep-15*
NTE Seg3C.3	Segment 3C Design Phase	420	21-Oct-15	27-Jun-17
NTE Seg3C.4	Segment 3C Construction Phase	700	15-Mar-17	02-Jan-20
NTE Seg3C.5	Segment 3C Commissioning Day	0		02-Jan-20
NTE Seg4 EA	Assumed FONSI for Segment 4	0		17-Oct-11*
NTE Seg4.1	Segment 4 Development Phase	165	05-Nov-19	06-Jul-20
NTE Seg4.2	Segment 4 Close of Finance	0		15-Sep-20*
NTE Seg4.3	Segment 4 Design Phase	430	21-Oct-20	13-Jul-22
NTE Seg4.4	Segment 4 Construction Phase	700	16-Mar-22	02-Jan-25
NTE Seg4.5	Segment 4 Commissioning Day	0		02-Jan-25



Actual Work · Critical Remaining Work · Summary · Remaining Work · Milestone

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B.9 Complete Master Development and Update Plan

ISOW Milestones 2-6 will contain much more detailed analysis of the steps outlined in the preceding Conceptual Development Plan sections. The culmination of the ISOW findings will ultimately be the MDP and, a component of which, the MFP. The contents of each chapter will largely follow the major developer deliverables within each Milestone. However, this is not set in stone. The NTEMP MDP and MFP Managers will jointly determine with TxDOT the final configuration of these corridor planning documents (within the confines of the CDA). The ultimate goal of NTE Corridor development should not be lost sight of during the planning process. The result of the Master Development Plan must justify the means taken to achieve it.

As corridor conditions change (e.g. physical changes to the surrounding network, drastic market changes, etc) it is probable the MDP will require updates. NTEMP and TxDOT will determine under which circumstances the NTEMP will be updated. Likely, specific triggers will be identified, such as close of finance, and substantial completion of individual Segments, to revisit the edition or supplement, depending on the extent of changes. Potential update triggers may include:

- Material changes in the financial analysis.
- Material changes in highway and rail usage demand or other requirements.
- Major environmental, planning or permitting approvals or changes.
- Material changes to TxDOT's Unified Transportation Plan.
- Material MPO information and STIP submissions.
- Material changes in local government requirements and needs.
- Material changes in the regional or national economy, demographic patterns and trends, and political concerns.
- Material changes in the assumptions used to develop the current MDP.
- Material changes or characteristics of a Facility.
- One or more Segment(s) identified in the MDP, or newly identified by either party, to become Ready for Development.
- Change in Texas law establishing a departure from the existing CDA process or prohibiting terms outlined in the current NTE MDP.
- A significant change in US law pertaining to federal highway funding or public financing.
- Changes in interest rate climate, inflation rates, tax regulation.
- Changes in the climate for private investment.
- Material changes in the assumptions used to develop the current financial analysis.

Figure B-21 is a flowchart illustrating the envisioned process for updating the MDP.

Figure B-21: MDP Update Process