

10-Year Plan 2001 - 2010



**The Illinois State
Toll Highway Authority**

March 2001



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At the direction of the Illinois State Toll Highway Authority Board and in conformance with the Toll Highway Act, we present the Tollway's 10-year construction and operations plan, covering the years 2001-2010.

As we embark on this 10-Year Plan, we find the Illinois Tollway System at a crossroads.

A major reconstruction of the state's tollway system is needed if the roads are to remain safe and efficient for motorists and continue to be a viable part of Illinois' nationally important road transportation system. In-depth study and assessment by the Tollway Authority has determined the magnitude of infrastructure needs approaches \$4.4 billion (see Appendix B), of which more than \$4.1 billion alone is associated with replacement of pavement, bridges and related roadway items. The remaining \$300 million is needed for system-wide improvements, including toll plaza renovation and congestion relief efforts.

However, as this 10-Year Plan illustrates in detail, the Tollway Authority cannot meet even half of the needed construction obligations because projected revenues fall short of the funding requirements. The 10-Year Plan projects expenditures of only \$2.7 billion, and even that is not entirely fundable past 2004 based on current revenue projections.

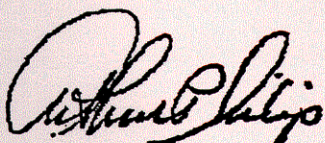
To ensure the long-term viability of the Illinois Tollway System, decisions must be made soon in order to protect the system's infrastructure and to undertake the needed improvements that will make the tollways more efficient and less congested for motorists. These decisions will no doubt be controversial, but must be made in order to preserve a system that is used by more than 1 million motorists every day.

This report lays out in detail, the conclusion of an exhaustive, 2½-year study of the Illinois Tollway System's infrastructure, operations and use. The 10-Year Plan represents a balance between the most effective use of currently available revenues and the identification of necessary future improvements. The plan is comprised of two distinct parts: first, the Tollway Authority's current Multi-Year Program for 2001-2005, and second, planned necessary improvements for 2006-2010. Key findings include:

- Much of the original tollway system, including pavements, bridges, toll plazas and support facilities are now more than 40 years old and have reached the end of their useful operational life and should be replaced.
- Traffic congestion is an ever-growing problem on many parts of the system and improvements such as lane widening and the expansion of non-stop toll collection services, such as I-PASS, are warranted.
- Major construction projects cannot be funded under the current 2001-2005 construction plan and must be deferred to later in the decade, if at all. Accordingly, construction projects included in the 2001-2005 portion of the plan only minimally maintain the Illinois Tollway System with patching and paving, cosmetic improvements with short life spans that do not address the long-term roadway needs.
- By the end of 2004 revenues are projected to be insufficient to meet even the minimum level of improvements outlined in the 10-Year Plan. The lack of funds for major repair and replacement projects recommended by an independent consulting engineer will trigger an automatic toll rate increase to make up for the shortfall.
- The 10-Year Plan does not include construction of any proposed extensions to the Illinois Tollway System, only funds for continued planning as ordered by the Illinois General Assembly.

The Authority looks forward to the continued dialogue that will result from this 10-Year Plan. While there are no easy solutions to the problems faced by the Illinois Tollway System, we stand ready to do all that we can to maintain and improve one of the nation's premiere toll highway systems.

Respectfully,



Arthur Philip
Chairman

10-Year Plan
for the
Illinois State Toll Highway Authority

Prepared by
Consoer Townsend Envirodyne Engineers, Inc.

Executive Summary

ILLINOIS STATE TOLL HIGHWAY AUTHORITY 10-YEAR PLAN

The Illinois State Toll Highway Authority (Authority) is a user-financed administrative agency of the State of Illinois whose purpose is to operate, maintain and service a system of toll roads located in northern Illinois. The Tollway system is an important component of the transportation network. When it opened in 1958, it was envisioned as a high-speed bypass around the urban core of Chicago. However, over the last four decades, the Tollway system has evolved to not only provide this function, but to also serve both commercial and commuter-oriented traffic within the Chicago metropolitan region. Today, the Tollway system provides high quality, safe, and efficient transportation in the regions it serves by effectively managing and allocating its resources.

As required by the Toll Highway Act, the Authority, with the assistance of its Consulting Engineer, Consoer Townsend Envirodyne Engineers, Inc. (Consulting Engineer), has developed an assessment of the overall condition of the system and prepared the 10-Year Plan. The 10-Year Plan is based on anticipated needs for the 10-year period beginning in 2001 and it identifies, prioritizes and estimates costs for and schedules projects to address those needs.

In order for the Tollway system to remain a key transportation facility in northern Illinois, a major investment in its infrastructure will be necessary. However, Tollway revenue is projected to grow only marginally in the future. As a result, funding will not be sufficient to finance the level of activity required to improve or maintain the level of service and physical condition of the Tollway system unless additional revenue sources are found. Based on current revenue projections, the Authority's current five-year program is fundable through 2004. Projects to address identified needs beyond 2004 are not fully fundable without additional sources of revenue.

Methodology of 10-Year Plan

Once system needs were identified and prioritized, specific projects and associated cost estimates were developed. Logical project phasing and sequencing were then developed to balance annual project expenditures and to minimize inconvenience to the travelling public.

System Needs

The condition of the Tollway system was assessed and the justification for recommended improvements can be separated into four basic categories:

- | | |
|---------------------------------------|---|
| ▪ Infrastructure Preservation: | Normal maintenance, resurfacing, rehabilitation and reconstruction of the Tollway system |
| ▪ Congestion Relief: | Implementation of IPASS, Plaza widenings and Roadway widenings |
| ▪ Regional Improvements: | New toll roads, improvements at major junctions between the Tollway system and other transportation facilities, Illinois First projects |
| ▪ System Enhancements: | New interchanges, noisewalls, and landscaping |

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The 10-Year Plan Project List

The 10-Year Plan includes a list of recommend projects for the years 2001-2010. Projects included in the 10-Year Plan are classified as either Renewal-Replacement projects, which include those for maintenance, repair or improvement to the existing infrastructure of the Tollway System, or Improvement projects, which include additions to the existing infrastructure.

Identification of Projects

The 10-Year Plan presents an approach to providing an expanded and rehabilitated system to be constructed during the 2001-2010 period. It involves all phases of work including Concept Studies, Design and Construction. When fully implemented, the Plan will result in large portions of the system being reconstructed and widened.

Project Costs

The 10-Year Plan identifies numerous projects to be completed during the time period. The annual award dollars for the ten year period ranges between \$124 million to \$575 million. While projects through 2004 are fundable as part of the Authority's current multi-year program, projects beyond 2004 are not fully fundable without additional sources of revenue.

**Annual Total Plan Cost
(In \$millions)**

Year	Renewal-Replacement Account	Improvement Account	Total Plan Cost
2001	\$105.7	\$31.6	\$137.3
2002	\$102.5	\$20.8	\$123.3
2003	\$112.6	\$10.6	\$123.2
2004	\$153.1	\$4.2	\$157.3
2005	\$164.4	\$22.4	\$186.8
2006	\$153.1	\$115.6	\$268.7
2007	\$94.5	\$130.9	\$225.4
2008	\$232.9	\$99.6	\$332.5
2009	\$333.9	\$174.8	\$508.7
2010	\$313.2	\$261.7	\$574.9
Total	\$1,765.9	\$872.2	\$2,638.1

Project Phasing

The 10-Year Plan considered project phasing when the project list was compiled. This involved determining logical project sequencing, project prioritization, and providing provisions for project continuity, which allows for stabilization of the annual project expenditures.

The relative priority of various projects were considered along with the geographic proximity of projects to establish logical project sequencing and to provide continuity among repair projects. It was assumed that, whenever possible, roadway widening would occur at the same time as roadway reconstruction and, short project sections (i.e., less than 1 mile) would be combined into larger segments. The intent was to minimize construction time within any given highway section by scheduling all work in one project. This will minimize inconvenience to the travelling

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public and will lessen the impact of reduced revenues because of the avoidance of construction areas by Tollway patrons.

Consequences

The current multi-year program (2001-2005) addresses only the most critical repair needs of the system. Intermittent repairs, resurfacings and rehabilitations will be performed instead of reconstruction and widening, which are truly needed. While this strategy maintains the system integrity through 2005, due to the deterioration of the concrete base, it cannot be continued beyond this time.

Additionally, if pavement is resurfaced or rehabilitated when the true need is for reconstruction, then it will be several years before the truly needed work can be scheduled. As resurfacings and rehabilitations are anticipated to last 3-6 years and 8-10 years, respectively, the Authority will need to get full value out of those projects before returning to reconstruct.

The current multi-year program is constrained by current revenue. It will impact Tollway patrons with necessary frequent repair work that will result in increased delay and inconvenience.

Summary

The Authority must continue to maintain the integrity of System infrastructure, including roadways, plazas and maintenance facilities. The planning of future Tollway activities is an ongoing process requiring constant change in response to ever-changing travel needs of the motoring public. The Authority must adjust to new unforeseen factors that may call for alteration of project priorities, new construction not currently planned, and for the orderly accomplishment of needed expansion and rehabilitation projects. The Authority must begin the challenge of replacing System elements that have exceeded their useful and economic service life if the Tollway is to remain a key transportation facility in northern Illinois. The 10-Year Plan identifies System needs and provides improvements to address these needs through the end of year 2010. Implementation of the 10-Year Plan will enable the Authority to effectively manage its resources and continue to provide motorists with the high-level of quality services they have come to expect.

Toll revenues are projected to grow only marginally in the future and by 2005, will not be sufficient to fully fund the needs of the System identified in this 10-Year Plan. Additional revenues will be required to fully implement this plan.

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1.0 Introduction

As the Illinois State Toll Highway Authority (Authority) enters the 21st Century, it is faced with many challenges. First, the agency must continue to maintain the integrity of the Tollway infrastructure, which include roadways, structures, plazas, maintenance facilities and administrative facilities. Second, the planning of future Tollway activities is an ongoing process requiring constant change in response to ever-changing travel needs of the motoring public and the condition of Tollway facilities. The Authority must adjust to unforeseen factors that may call for the re-ordering of project priorities, new construction not currently planned, and for the orderly implementation of needed expansion and rehabilitation projects. Finally, the Authority must begin the challenge of replacing system elements that have exceeded their useful and economic service life.

As required by the Toll Highway Act, the Authority, with the assistance of its Consulting Engineer, Consoer Townsend Envirodyne Engineers, Inc. (Consulting Engineer) has developed an assessment of the overall condition of the Tollway system and prepared a 10-Year Plan for maintenance and improvement of the Tollway system. The 10-Year Plan is based on anticipated needs for the 10-year period beginning in 2001, and identifies, prioritizes, schedules, and estimates costs for projects to address those needs. Implementing the 10-Year Plan will enable the Authority to effectively manage its resources and provide motorists with the high-level of service they have come to expect.

In order for the Tollway system to remain a vital transportation facility in northern Illinois, major investments in its infrastructure will be necessary. However, toll revenues are projected to grow only marginally in the future according to the Authority's Traffic Consultant. As a result, available funding will not be sufficient to finance the level of activity required to improve or maintain the level of service and physical condition of the tollway system unless additional revenue sources are found. Based on current revenue projections, the Authority's current five-year program is fully fundable through 2004. Projects to address identified needs beyond 2004 are not fully fundable without additional sources of revenue.

This 10-Year Plan report reviews system needs and proposes a strategic approach to ensure that the Tollway facility remains a vital and viable component of the transportation system in northern Illinois. It also discusses relative priorities, sequence of construction projects, and the estimated cost of the entire plan.

2.0 Background

The Illinois State Toll Authority began in 1953 as the Illinois State Toll Highway Commission, created by a special act of the Illinois State legislature. The Commission was directed by the Legislature to construct the original 187-miles of the Tollway system that included the Tri-State, Northwest and East-West tollways. These routes opened to traffic in 1958. On April 1, 1968 the Illinois State Toll Highway Commission became the Illinois State Toll Highway Authority. Today, the Illinois State Toll Highway Authority is a user-financed administrative agency of the State of Illinois whose purpose is to operate, maintain and service a system of toll roads located in northern Illinois. There are currently 274 miles of mainline roadway consisting of 1459 mainline lane miles, 181 ramp lane miles, 94 interchanges, and 538 bridges.

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The Illinois Tollway has been an important component of the transportation network in northern Illinois. When it opened in 1958, it was envisioned as a high-speed bypass around the urban core of Chicago. However, over the last four decades, the Tollway system has evolved to not only provide this function, but to also serve both commercial and commuter-oriented traffic within the Chicago metropolitan region. Expansion of the system through the construction of extensions and new routes was initiated to keep pace with overall traffic growth in the region. Improvements have been made in coordination with and in response to regional transportation planning efforts at both the regional and state levels.

The Illinois Tollway has grown over the last four decades as a result of Legislative directives:

- In 1953, the Illinois State Legislature directed the then Illinois State Toll Highway Commission to construct the original 187 miles of the tollway system, consisting of the Northwest, Tri-State, and East-West Tollways. These routes opened to traffic in 1958.
- In 1970, the Governor approved the construction of the East-West Extension, between IL Route 56 west of Aurora and US Route 30 near Sterling – Rock Falls, which added an additional 69.5 miles to the system. This extension was included in the original authorization for the tollway system but was not included in the original construction. This route was opened to traffic in 1974.
- In 1984, the Illinois State Legislature directed the Illinois State Toll Highway Authority to construct the North-South Tollway, which added an additional 17.5 miles to the system. This route opened to traffic in 1989.
- In July 1993, the Illinois General Assembly authorized the Authority to construct an extension of the North-South Tollway from I-55 to I-57 (South Extension and South Suburban Extension), an extension of IL Route 53 from Lake-Cook Road to IL-120 in Grayslake and east to I-94 (Lake County Transportation Improvement Project, formerly the North Extension) an extension of the North-South Tollway from IL-120 in Grayslake to the Illinois-Wisconsin border near Richmond, Illinois (Richmond Extension.) In 1995, the Authority was further authorized to construct the Elgin-O'Hare Extension and the West O'Hare Bypass. All of these routes are currently in various stages of study.

Effective March 31, 1999, the "Amended and Restated Trust Indenture" renamed the Capital Improvement Program as the Improvement Program (I) and the Major Improvement Program as the Renewal and Replacement Program (RR). Improvement projects are those that add to the existing Tollway infrastructure, while Renewal and Replacement projects are those that maintain, repair or improve the existing infrastructure. Funding for these programs is provided entirely through user fees (i.e., tolls), concessions, interest, and revenue bonds.

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In 1999, Governor George Ryan initiated the “*Illinois FIRST*” program. It is a five-year, \$10.5 billion Program designed to build, repair and upgrade Illinois’ critical infrastructure. Major targets of “*Illinois FIRST*” are aging and deteriorating roads and bridges and unfunded highway construction projects throughout the State. The Authority is required to participate in funding a number of these projects over the next several years.

The Tollway system provides high quality, safe, and efficient transportation by an effectively managed allocation of resources. For the past four decades, the Authority has maximized the portion of revenues allocated to capital investments in its roadways. This has been accomplished through a variety of organizational efficiencies aimed at controlling operational expenditures, through responsible investment of cash reserves, and through an emphasis on timely maintenance repairs to prolong the useful life of its roadways and capital assets.

3.0 History of the 10-Year Plan

In 1966, the Authority and its Consulting Engineer used the first funds made available, \$14 million in bond revenues, to begin improvements to the system beyond the scope of normal maintenance and operations. The Authority also initiated a General Reserve Account (GRE) at that time to finance construction projects. This GRE program was the predecessor to the subsequent Major Improvement Program and the current Renewal and Replacement Program (RR) and was funded exclusively from general revenues collected through tolls.

To plan for the future, the Authority, in 1970, directed its Consulting Engineer to develop a plan to address the multiplying needs of the system. This was the first 10-Year Plan. Following this plan, the Authority widened the entire Tri-State Tollway to six lanes as well as significant portions of the Northwest and East-West Tollways. The widening also incorporated the first rehabilitation cycle for those sections of the system. Major bridge rehabilitation and geometric improvements were undertaken, concrete median barriers were installed on 105 miles of six-lane roadway, toll plazas were expanded and several other improvements were made.

By 1979, much of the original system was reaching or exceeding its traffic capacity while, at the same time, the pavement was 20 years in age. System needs had been identified in a number of reports prepared during that period. A large, multi-faceted construction program designed to meet these diverse needs was required, so the Authority authorized preparation of a second 10-Year Plan. That plan was directed towards three fundamental goals: providing improved traffic safety, increasing capacity, and system maintenance through regular rehabilitation.

The 1980 10-Year Plan first categorized elements of work by capacity, safety and rehabilitation requirements throughout the system. The 1980 Plan identified system needs, prioritized them according to relative urgency of need, and tabulated those needs. In the early 1980’s, the Authority established the Capital Improvement Program (CIP) to fund the construction of the North-South Tollway and subsequent capital improvement projects including the widening of the Tri-State Tollway in the early 90’s.

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The 1990 10-Year Plan recommended rehabilitation, reconstruction and widening projects throughout the entire Tollway system. Major projects included the rehabilitation of the East-West Extension, rehabilitation/reconstruction and widening of the central portion of the Tri-State between 95th Street and the O'Hare Interchange and of the eastern portion of the Northwest Tollway between the Kennedy Expressway and I-290. Expansion at ten toll plazas and the replacement of one plaza was also recommended in the plan. Facility projects that were recommended included the construction of a new maintenance facility (for the North-South Tollway) and the relocation of two maintenance facilities. Not all of these recommended improvements were implemented due to funding constraints.

During the mid-1990's, the Illinois State Legislature revised the Toll Highway Act to require a 10-Year Plan. This document is the first 10-Year Plan to be prepared under that requirement.

4.0 *System Assessment Methodology*

The 10-Year Plan is a strategic document that sets an approach to ensure that the Tollway infrastructure remains a vital and viable component of the transportation system in northern Illinois. The 10-Year Plan identifies system needs and then presents short-term and long-term projects to be completed during the 2001-2010 time period that will best address those needs.

Illinois toll roads function as major interstate and regional commerce and commuter corridors in northern Illinois. Throughout the past four decades, dramatic growth and change has occurred in this region, resulting in altered travel patterns and increased travel demand. The Authority has responded to these changes by investing over \$1.75 billion for improvements and repairs to the toll road system over the last 40 years.

Recognizing the extensive nature of future improvement needs along the Illinois toll road system, in 1998 the Authority and its Consulting Engineer embarked upon an evaluation of long-range improvement needs in anticipation of preparing a new 10-Year Plan. The objective was to conduct a comprehensive assessment of the current and future physical and operational characteristics of the toll road system (including pavements, bridges and facilities) to develop improvement options, and to evaluate the benefits and consequences of the various options. This assessment was structured to assist the Authority in making choices on the level and character of investments to be made to the system in coming years.

Since the opening of the first tollway, the Authority has conducted annual reviews of the physical condition of the toll road infrastructure. The Consulting Engineer has made annual inspections and prepared reports on the condition of the toll road system. These reports have considered rates of change of pavement condition, surface ride quality, pavement distress patterns, bridge conditions, building/facility conditions, availability of funds, motorist inconvenience, and other factors. The reports have been used over the years to program maintenance work as well as major projects to be performed by contractors under the Authority's Annual and Multi-Year Programs.

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The condition of each of the three major components that make up the Tollway infrastructure were assessed as follows:

4.1 Pavements

In the past several years, visual and electronic surveillance of the pavement surface has been performed to determine the current extent of distress. Prior to 1994, evaluations of pavement condition were derived from visual observations made by the Consulting Engineer during annual inspections. In 1994 the Authority adopted an IDOT-developed pavement inspection and evaluation system which classifies pavement conditions using Condition Rating System (CRS) values. The CRS is a subjective numerical rating system for describing the surface condition of pavements based on visual and electronic inspection procedures. The CRS system generates an overall pavement condition rating on a 1 to 9 scale, with 9 representing a newly constructed or resurfaced pavement and 1 representing a completely failed pavement.

From 1994 through 1996, CRS values were developed by the Consulting Engineer during its annual inspection of the Tollway. Since 1997, an independent consultant has developed these values for the Authority. This consultant uses a methodology that records surface conditions on videotape and collects electronic sensor data that measures certain types of surface distress and the rideability of pavements. Data collected is reviewed by the Consulting Engineer in conjunction with its annual inspection and report on the condition of the Tollway system. In 1998, The Authority engaged the services of a second independent consultant to review and interpret the collected CRS data.

In 1999, the Illinois Department of Transportation performed an independent cursory appraisal of Tollway system pavements based only on visual inspections made during a windshield-type survey from a moving vehicle. This inspection provided generalized CRS ratings to compare with those determined by the Authority's standardized procedures.

4.2 Bridges

The Authority conducts inspections of its bridges on a two-year cycle in conformance with Federal reporting requirements. During these inspections, all elements of the Authority's bridges are inventoried for signs of deterioration. The collected information is entered into a database. These inspection data are reviewed and considered in developing an assessment of bridge conditions.

From the condition information contained in this database, an overall assessment of the condition of individual bridges can be derived, and the deterioration of specific bridge elements can be identified. These assessments can then be used to identify bridges that require only routine maintenance work by the Authority or that should be considered for more major repair/rehabilitation work by outside contractors. These latter bridges would be included in adjacent roadway rehabilitation contracts, or their repair may be included in stand-alone bridge contracts. If inspection reveals a significant structural deficiency within a bridge, due to extraordinary deterioration or an accident, the Authority may also issue an emergency repair contract.

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4.3 *Facilities*

Beginning in 1997, a program of facility inspections was initiated by the Authority to develop a database of condition information that could be utilized to project future rehabilitation/repair needs at toll plazas, maintenance facilities, and other buildings. These inspections were performed by a subconsultant to the Consulting Engineer. These inspections covered all major building systems such as roofs, structural, electrical, mechanical, and ventilation. Based on these inspections, short and long-term repair and replacement needs were identified and costs were estimated. Because of ongoing construction projects including the installation of I-Pass toll collection, many toll plazas have not yet been inspected but are scheduled for such work in the future.

5.0 *System Condition*

5.1 *Pavements*

An evaluation of the overall condition of the Tollway system was conducted based on the described methodology. The Consulting Engineer's assessment of the condition of Tollway pavements is based on the most recent (1999) CRS data, as interpreted by an independent subconsultant. The CRS data is tempered with the professional judgement of the Consulting Engineer through its annual inspection of the roadway and its knowledge of the maintenance and repair histories of the routes. The most recent overall CRS values for the Tollway system are shown in Table 1. For comparative purposes, IDOT's CRS values derived from its cursory inspection performed in 1999 are also included.

Generally, CRS values determined by the Authority and by IDOT are similar. Some differences reflect normal changes in pavement condition from year to year; other differences reflect recent resurfacings and some instances of accelerated deterioration that have occurred on some Tollway segments since the time of the most recent Authority data.

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Table 1
CRS Pavement Conditions per Directional Mile for Tollway Routes

Tollway Route	Condition (Directional Miles)								
	Excellent (CRS 7.6-9.0)			Good (CRS 6.1-7.5)			Fair (CRS 4.6-6.0)		
	<i>ISTHA</i> 1998	<i>ISTHA</i> 1999	<i>IDOT</i> 1999	<i>ISTHA</i> 1998	<i>ISTHA</i> 1999	<i>IDOT</i> 1999	<i>ISTHA</i> 1998	<i>ISTHA</i> 1999	<i>IDOT</i> 1999
Northwest	29.2	27.9	4.1	48.1	29.8	36.5	73.5	95.3	112.0
Tri-State	22.9	29.1	52.7	96.3	99.1	63.5	33.9	26.4	38.9
East-West	31.9	37.4	19.8	116.0	106.5	171.4	38.0	47.9	0.0
North-South	33.4	25.1	33.9	0.5	8.5	0.0	0.0	0.0	0.0
Edens Spur	1.3	1.3	9.8	3.8	5.5	0.0	0.0	1.0	0.0
Total *	118.7	120.8	120.3	264.7	249.4	271.4	145.4	170.6	150.9
% of Total	23.3%	22.3%	22.2%	54.0%	46.1%	50.0%	22.7%	31.6%	27.8%

* Total mileage is less than Total System directional mileage due to the inability to obtain CRS ratings for sections under construction or otherwise inaccessible. Total mileage for IDOT data differs from ISTHA data due to differences in inspection limits.

Typically, pavement classified as "Fair" is considered a candidate for some type of remedial action. Based on maintenance and repair histories and pavement age, the Consulting Engineer considers pavement with a CRS value between 6.1 and 6.5 (the lower third of the "Good" range) as transitional between "Good" and "Fair." This pavement will likely require repairs in the next two to seven years as a result of the diminishing life span of repeated repair cycles. Thus, approximately 52% of the pavement fell into this category in 1999 as shown in Table 2.

Table 2
Directional Miles of Tollway Pavements with CRS Values Above/Below 6.5

Tollway Route	Condition (Directional Miles)					
	(CRS ≤ 6.5)			(CRS >6.5)		
	<i>ISTHA</i> 1998	<i>ISTHA</i> 1999	<i>IDOT</i> 1999	<i>ISTHA</i> 1998	<i>ISTHA</i> 1999	<i>IDOT</i> 1999
Northwest	111.8	115.4	112.0	39.0	37.7	40.6
Tri-State	80.4	65.2	41.8	72.7	89.5	113.2
East-West	86.0	100.3	0.0	99.8	91.4	191.1
North-South	0.0	0.0	0.0	33.9	33.6	33.8
Edens Spur	0.3	1.0	0.0	4.8	6.8	9.8
Total *	278.5	281.9	153.8	250.2	259.0	388.5
% of Total	44.8%	52.1%	28.4%	55.2%	47.9%	71.6%

* Total mileage is less than Total System directional mileage due to the inability to obtain CRS ratings for sections under construction or otherwise inaccessible. Total mileage for IDOT data differs from ISTHA data due to differences in inspection limits.

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In general, the CRS ratings, repair history and physical condition of the Tollway system all indicate that large portions of the system continue to deteriorate and will need either extensive rehabilitation or reconstruction in the future.

A route by route assessment of the Tollway system is as follows:

Tri-State Tollway

The Tri-State Tollway was constructed as part of the original Tollway system in the late 1950's using mesh reinforced 10-inch concrete pavement. Since then, the pavement has received a series of asphalt concrete (AC) overlays with each subsequent overlay experiencing a shorter life cycle. Major contributors to the reduced pavement life have been increased truck traffic and deteriorating conditions of the original pavement.

From 1992 to 1994, the central Tri-State Tollway from 95th Street to Balmoral Avenue was widened and partially reconstructed. In some segments, the entire existing pavement was reconstructed and widened. In other segments, the outside lane on the existing six-lane facility was reconstructed, a fourth lane was added in each direction, and the two existing inside lanes in each direction were left in place, rehabilitated and resurfaced. The remainder of the Tri-State outside the limits of the widening/reconstruction projects still consist of the original concrete pavement lanes that have been resurfaced two or three times. These segments are again in need of repair, particularly at the south end of the route from 95th Street to the east terminus at the Bishop Ford Freeway (I-80/94/IL Route 394 Interchange).

Northwest Tollway

The Northwest Tollway was constructed as part of the original Tollway system using mesh reinforced 10-inch concrete pavement. Since then, this pavement has received a series of AC overlays with each subsequent overlay experiencing a shorter pavement life extension. Major contributors to the reduced pavement life have been increased truck traffic and deteriorating conditions of the original pavement.

Between 1981 and 1990, most of the Northwest Tollway received a second asphalt overlay in conjunction with rehabilitation work. Between 1992 and 1996, approximately thirty-five miles received a third cycle of repair work. With the exception of the north end from Newburg Road to the north terminus at Rockton Road, which was resurfaced in 1996 and is generally in good condition, the Northwest Tollway appears to be rapidly deteriorating. Settlements in the asphalt overlay located over joints in the underlying original concrete pavement suggest significant deterioration of pavement structures.

The section of the Northwest Tollway from its east terminus at the Kennedy Expressway (I-90/IL Route 190 Interchange) to Plaza 9 near Elgin has undergone either two or three rehabilitation cycles and should be reconstructed. Due to a lack of adequate funding, resurfacing only was completed on the section from Barrington Road to the Fox River in 2000. Since projected revenues will not provide adequate funding, needed reconstruction and widening of the

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remainder of this segment between the Kennedy Expressway and Barrington Road is being postponed, and only pavement rehabilitation is currently scheduled in 2002. Significant deterioration is also occurring between Plaza 9 and Newburg Road. This segment will be resurfaced in 2005.

East-West Tollway

The East-West Tollway from the Tri-State Tollway to IL Route 56 near Aurora was constructed as part of the original Tollway system. This pavement also consisted of mesh reinforced 10-inch concrete and has received a series of repairs and asphalt overlays, with each subsequent overlay providing a shorter pavement life extension. A short section received an unbonded concrete overlay eleven years after the first asphalt overlay, which had been placed thirteen years after the original construction. The unbonded concrete overlay is not performing well. Current inspection data indicate that the unbonded PCC overlay is in need of rehabilitation. The magnitude of joint faulting has progressed to a level that is very noticeable to the traveling public and must be addressed.

Remaining sections of the original East-West Tollway are in need of rehabilitation or reconstruction, as suggested by increasing maintenance requirements and decreasing overlay lives.

East-West Extension

The East-West Tollway was extended west to U.S. Route 30 near Rock Falls in 1974. The East-West Extension was constructed as a 14-inch jointed plain concrete pavement. The original section was initially planned to be a 10-inch concrete pavement on a 4-inch lean concrete base; however, the design was changed during construction as a cost saving measure. Because of excessive joint spalling caused by the use of joint inserts (versus sawcut joints), the lack of dowel bars, and some concrete material problems, the pavement began showing signs of distress earlier than would have been anticipated. Overall, inspection data indicate that the East-West Extension is approaching the point at which additional rehabilitation will be required. A relatively thin asphalt overlay (2 ¼") was placed in the early 1990's, and was originally intended to act as a bond breaker for a future concrete overlay. However, the concrete overlay was never placed, and instead, the asphalt overlay has been used as a riding surface. This overlay, which is thinner than the typical 3" overlay used on the rest of the system, has continued to deteriorate. Because the pavement was constructed directly on the existing subgrade and not on a draining aggregate base course, extensive subsurface problems have developed over time. Evidence of the poorer performance includes the large amount of maintenance repairs performed over the last few years.

In 1998, the Authority rehabilitated two, two-mile long segments of the East-West Extension as a test program utilizing a technique known as rubblization. The existing concrete was broken into approximately nine-inch and smaller pieces and surfaced with a thick eight-inch layer of asphalt. The test segments are being closely monitored, and if performance is satisfactory, this technique may be used on additional sections.

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North-South Tollway

The 17.5-mile North-South Tollway, constructed of non-reinforced 12" jointed plain concrete pavement, opened in 1989 and is generally in very good to excellent condition. It is expected to provide many more years of service before major rehabilitation is required. Increased concrete thickness, shorter transverse joint spacing of twenty feet, and doweled transverse joints are all key elements that are contributing to the excellent performance of this pavement. As a result, the first cycle of repair work on the North-South is not anticipated until 2010.

Edens Spur

The Edens Spur was also constructed as part of the original Tollway system. Approximately 25% of the Edens Spur (at its west end) has recently been reconstructed with 12" jointed plain concrete pavement and is in excellent condition. This new non-reinforced concrete pavement should provide 15 to 20 or more years of service before any major rehabilitation work is required. The remaining asphalt-overlaid concrete pavement is still performing well and should provide several more years of useful life before requiring rehabilitation.

5.2 Bridges

The 10-Year Plan also identified the needs of the Authority bridges. The Authority has performed detailed bridge inspections of its mainline and overhead structures. Authority personnel inspect all toll road bridges in detail at regular intervals not to exceed two years and in accordance with federal and state guidelines. Inspection reports are prepared outlining the overall condition of each bridge component and repair/maintenance recommendations.

A majority of bridges on the original portions of the toll road system have undergone a minimum of three major repair cycles. Today, bridge decks are showing significant signs of age, particularly along heavily traveled commercial routes. Based on findings of the Authority's inspections, over 55% of toll road bridges are characterized in satisfactory, fair, or poor condition and in need of some level of rehabilitation.

5.3 Facilities

The Authority has 7 service oases, 11 maintenance facilities, 20 mainline toll plazas and 46 ramp plazas, 6 communication tower facilities, and 5 miscellaneous structures throughout the Tollway System. In 1994, a series of inspections of these facilities began. This involved a general review of the architectural, structural, mechanical, electrical, mechanical and other building systems to identify those elements requiring remedial work, determine facility life expectancy, develop a replacement schedule and identify anticipated costs. The complete evaluation of facilities included discussions with maintenance staff, review of available reports, drawings, and visual observations.

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6.0 *System Needs*

Future improvement needs were developed and separated into four basic categories:

- **Infrastructure Preservation** Normal maintenance, resurfacing, rehabilitation and reconstruction of the tollway system
- **Congestion Relief** Implementation of I-PASS, Plaza widenings and Roadway widenings
- **Regional Improvements** New toll roads, improvements at interchanges between the tollway system and major state transportation facilities, “*Illinois FIRST*” projects
- **System Enhancements** New interchanges, noisewalls, and landscaping

6.1 *Infrastructure Preservation*

Infrastructure preservation needs of the Tollway roads, bridges and facilities were identified and evaluated by the Consulting Engineer in developing the 10-Year Plan. Preserving the physical integrity and safety of the system by making timely and effective improvements is vital to the mission of the Tollway.

Over the past forty years, the Authority has performed routine inspections, maintenance and major repair work to the pavement to extend the service life of its infrastructure. Typical repair strategies used on the Tollway system have included:

- **Surfacing** – the first asphalt (3”±) applied to the original concrete riding surface.
- **Resurfacing** – removal of the asphalt overlay and patching the underlying concrete with asphalt, then re-applying a new asphalt overlay. In some cases, the resurfacing consists of removing and replacing only the top 1-1/2” of the asphalt.
- **Rehabilitation** – rehabilitation of the roadway, structure drainage, signing, lighting toll plazas, maintenance yards, oases and miscellaneous appurtenances repairs to maintain service quality. Pavement rehabilitation is similar to resurfacing but involve base repairs using concrete to patch the underlying concrete pavement with an overlay replacement. Structure rehabilitation involves deck repair and possibly an overlay replacement.
- **Reconstruction** – complete removal and replacement.

Review of past maintenance records indicate that most of the original Tollway system has undergone three cycles of repair work since being originally constructed. Consequently, the life cycle of original pavements and its maintenance can be characterized by the following timeline:

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Table 3 Tollway Pavement Timeline

Approximate Year	Type of Work
Year 0 (Opening)	Original concrete pavement construction
Year 17	Placement of asphalt surface and minor pavement repairs
Year 26	Removal of asphalt, concrete repairs, placement of new asphalt surface
Year 36	Removal of asphalt, concrete repairs, placement of new asphalt surface

Typically, after 40 years, pavements show signs of marked deterioration and distress. Fifty-seven percent of the existing pavement is over 40 years old while 52 percent is rated at a CRS of 6.5 or less. Roadway repairs uncover greatly deteriorated pavement and the useful life of new asphalt overlays is decreasing due to deterioration of the underlying concrete base. In addition, surface distress in new overlays appears soon after placement in areas of high traffic, indicative that the concrete pavement and/or granular subbase underneath are deteriorating. All of these factors indicate that large portions of the system will need either extensive rehabilitation or reconstruction in the future.

Historically, this pavement rehabilitation strategy has comprised the majority of repair work on the tollway system. However, further and more frequent repairs to pavements are proving to be less cost effective in terms of repair costs, traffic delay costs, and inconvenience to the motoring public. As a result, the Authority expanded the services of its Consulting Engineer to develop a Pavement Management Program through the services of a specialized subconsultant. This program modeled collected pavement data and projected pavement condition trends (See Appendix A – Development of the Illinois State Toll Highway Authority's 10-Year Pavement Rehabilitation Plan).

In addition to the Authority's traditional methods of pavement maintenance, new repair strategies that would optimize the service life of pavements are continually evaluated. New repair strategies include thicker asphalt concrete overlays and concrete pavement restoration (CPR). Concrete pavement restoration uses diamond grinding to re-texture the pavement surface and replaces failing pavement joints.

Projects that address pavement preservation needs include pavement resurfacing, rehabilitation and reconstruction, and any miscellaneous pavement repair work. Projects were prioritized and phased over the 10-years of the study period based on available funding and other planned activities (e.g. new toll collection system, capital equipment purchases). The pavement repair strategy was then reviewed and refined by an iterative process, comparing proposed strategies, until a program that best met the infrastructure needs of Tollway pavements and best addressed the needs of the motoring public was developed.

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Typically, roadway projects address the preservation needs of bridges and include bridge rehabilitation, bridge reconstruction, and miscellaneous bridge appurtenance repair for structures within the project limits.

Although specific projects were not identified in the 10-Year Plan, an annual sum of \$5 million, beginning in 2006, has been included for planning purposes. Projects that address preservation needs of facilities include facility rehabilitation, facility reconstruction, and any miscellaneous facility repair work.

6.2 *Congestion Relief Needs*

Growth in the six county northeastern Illinois region has brought a significant increase in congestion on the Tollway system. As a result, congestion relief needs were also identified in developing the 10-Year Plan. Projects that fall into this category are those that add system capacity such as roadway, interchange and plaza widenings. Congestion relief needs of the tollway are separated into two categories: 1) roadway and interchange capacity needs and 2) toll plaza capacity needs.

6.2.1 Roadway and Interchange Capacity

The Authority's Traffic Consultant assembled existing and projected traffic volumes for the entire tollway system so roadway and interchange congestion relief needs could be determined. Traffic forecasts were based upon regional growth and travel demand forecasts contained in the 2020 Regional Transportation Plan (RTP). Operational and capacity analyses were then conducted to identify roadway and interchange locations that experienced severe congestion. A Level of Service (LOS) value was assigned for each segment analyzed.

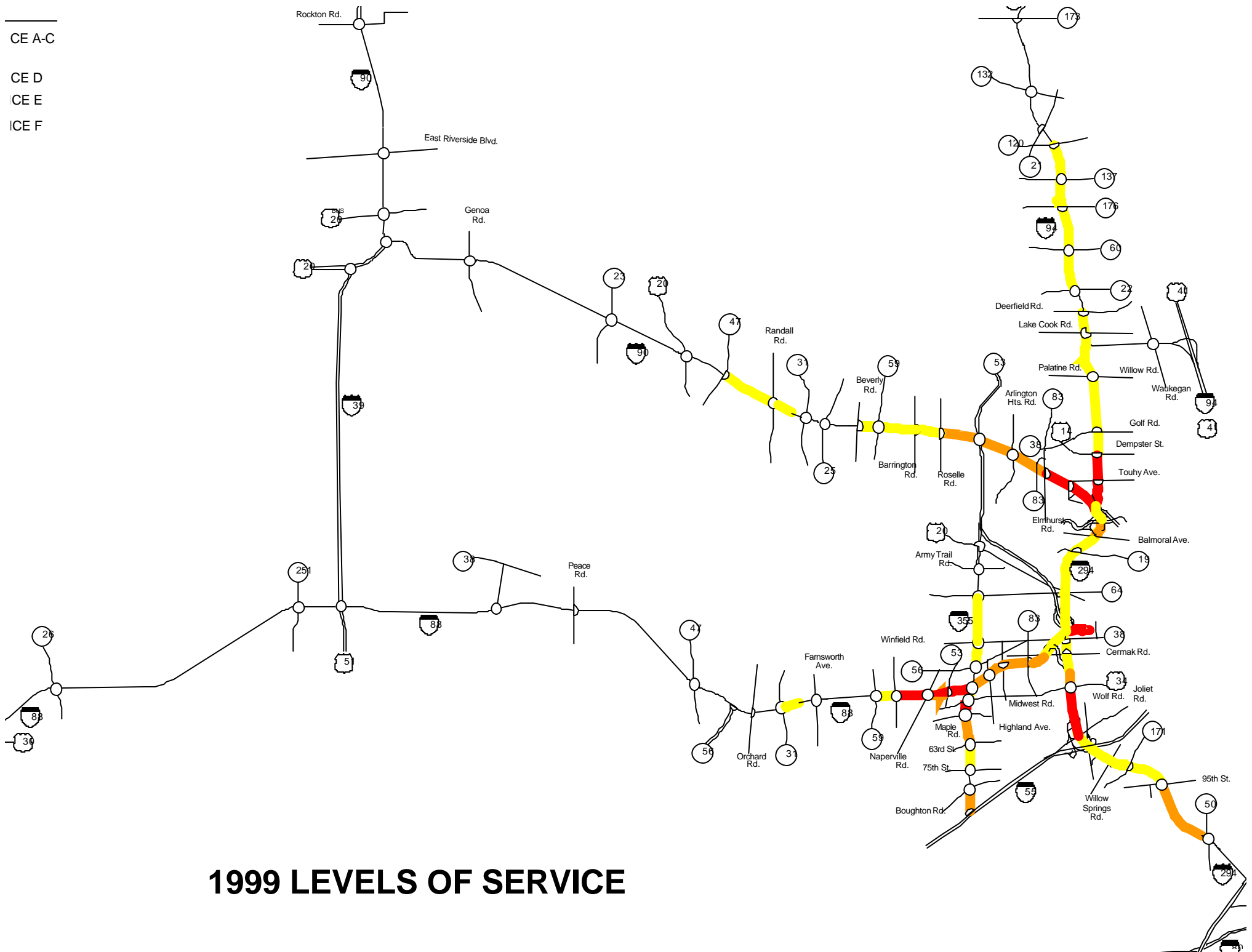
Level of Service is a qualitative way to describe the operational conditions of the roadway; that is, it is a way to describe how well the roadway is operating. There are six levels of service: LOS A through LOS F, with LOS A representing ideal conditions for traffic flow and descending to LOS F which represents breakdown in vehicular flow conditions and heavy congestion. For planning purposes, the minimum acceptable level of service is LOS D. It was assumed that any roadway segment that experienced a LOS E or F was a candidate for congestion relief measures such as roadway widening and any interchange that experienced a LOS E or F was a candidate for interchange improvements. Figures 1 through 4 illustrate the Level of Service for roadway segments on the Tollway for years 1999, 2010, 2015 and 2020, respectively. The figures indicate that the level of service will progressively decline unless capacity improvements are initiated on the tollway system.

CE A-C

CE D

CE E

ICE F



ICE F

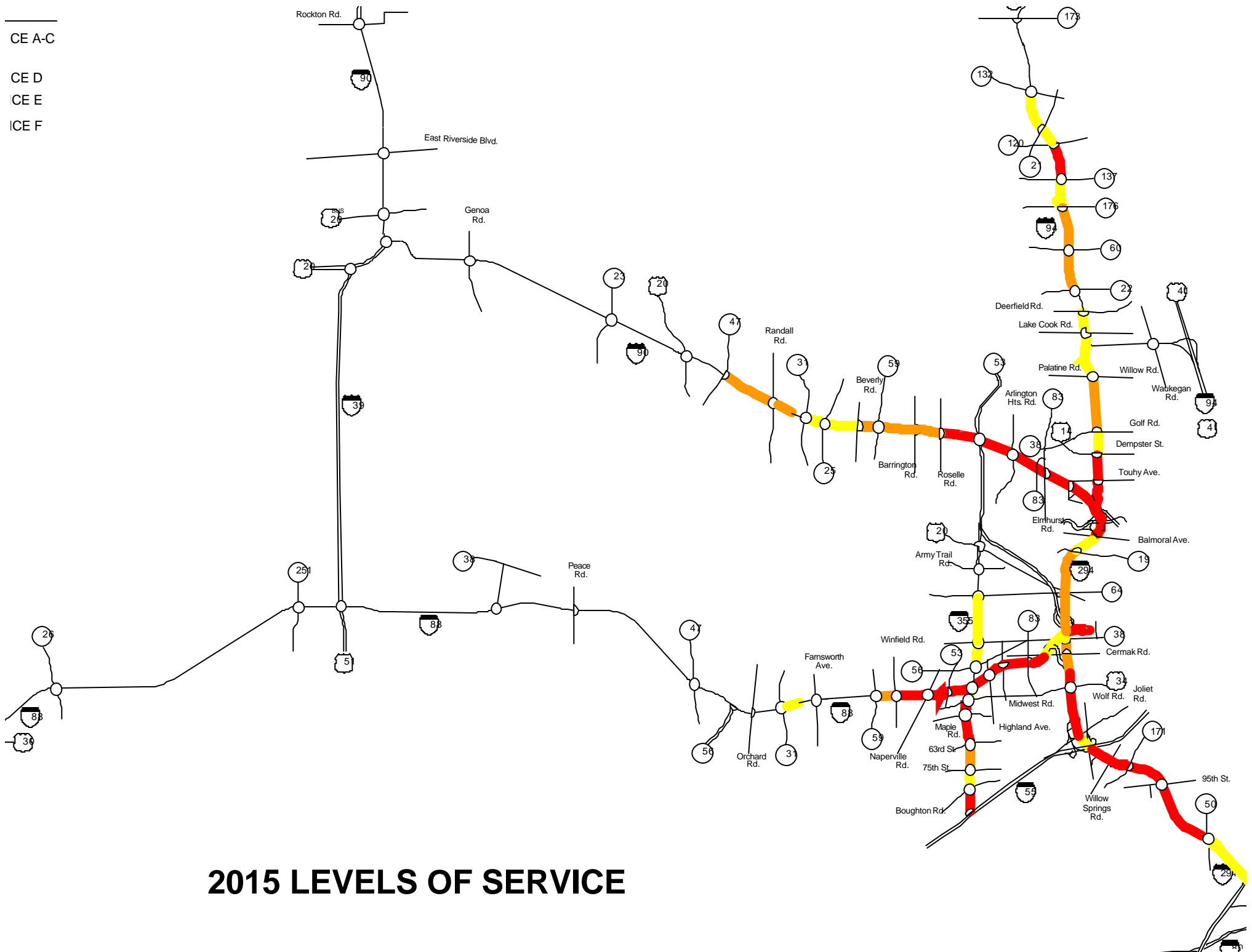


CE A-C

CE D

CE E

ICE F



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6.2.2 Toll Plaza Capacity

Traffic growth on the toll road system has also affected toll plaza operations. In the past, as the number of vehicles using the tollway increased, additional toll lanes were added to manage the increase in demand.

In the early 1990's, the Authority concluded that continuing plaza widening was no longer practical because capital costs and impacts to adjacent developed areas were significant. Thus, accommodation of additional traffic in the future would need to be made through more efficient plaza operations. The Authority first embarked upon electronic toll collection made available by technology advancements, in 1993. The I-PASS electronic toll collection system allows motorists whose vehicles are equipped with a transponder to pay via an account, from which their tolls are deducted as they pass through a plaza area. No stop to handle cash is required and the electronic transaction is virtually instantaneous. In summary, I-PASS makes it possible for motorists to travel through a toll plaza without stopping.

Through a series of improvements extending from 1993 through 2000, the Authority deployed I-PASS equipment to all toll plazas on the system and has reconfigured most mainline toll plazas to provide enhanced travel for I-PASS customers.

Initially, the tollway did not set aside any specific toll lanes for I-PASS traffic. It was clear from studies performed in Illinois and from toll industry experience that lanes or roadways assigned solely to I-PASS users would be much more desirable and efficient. As a result, the Authority began converting some automatic coin lanes to low-speed dedicated I-PASS lanes. In 1999, sixteen I-PASS Only lanes were in operation at mainline toll plazas. At selected mainline toll plazas, the Authority also implemented the construction of high-speed I-PASS Express Lanes to allow vehicles to drive through toll plaza areas at highway speed, thus allowing I-PASS customers to pass through toll plazas virtually without notice or delay to the motorist. As a result of these improvements and programs, traffic congestion resulting from toll plazas has been notably reduced.

Electronic toll collection has made it possible for the Authority to handle toll transactions more efficiently and with minimal delay to motorists. As travel demand on the system grows in the future, expanded use of I-PASS, coupled with further plaza modifications, will provide motorists with easier travel through toll plazas.

The 10-Year Plan identifies projects that address congestion relief needs. Roadway sections are considered for widening to reduce congestion. Congested interchange locations are considered for interchange improvements and congested toll plazas are considered for measures that will continue to increase throughput capacity. By initiating projects that address congestion relief needs the Authority will be able to provide improvements to traffic flow which will lead to better service for its patrons.

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6.3 *Regional Improvements*

Over the past four decades, travel demand throughout northern Illinois has grown tremendously, particularly in the collar counties surrounding Cook County. Not only has there been an increase in travel demand there has been a change in travel needs. Because forecasts indicate this trend will continue, the Authority was authorized by the Legislature in 1993 to construct an extension of the North-South Tollway from I-55 to I-57 (South Extension and South Suburban Extension,) an extension of IL Route 53 from Lake-Cook Road to IL-120 in Grayslake and east to I-94 (Lake County Transportation Improvement Project, formerly the North Extension,) and an extension of the North-South Tollway from IL-120 in Grayslake to the Illinois-Wisconsin border near Richmond, Illinois (Richmond Extension.) In 1995, the Authority was further authorized to construct the Elgin-O'Hare Extension and the West O'Hare Bypass. Planning for this growth now will ensure that the Tollway system remains a vital link in the transportation network of northern Illinois. New tollroads and/or improvements at major interchanges between the Tollway system and other major transportation facilities permit greater access between other transportation systems.

A review of the 2020 Regional Transportation Plan for Northeast Illinois (RTP) identified the need for both new tollroads and major interchange improvements. Because continued growth and redistribution of development in the region has resulted in an over saturation of local and state highways, there is a need to consider construction of new transportation corridors and improvements to the existing corridors through regional improvement initiatives. Projects that fall into this category include extensions, bypasses and those projects to be studied as directed by legislation and in compliance with regional transportation priorities such as "*Illinois FIRST*".

6.4 *System Enhancements*

For the last forty years, a key function of the tollway system has been to provide convenient access for commuter, commerce and recreational traffic. When the Tollway was first constructed, it was envisioned as a high-speed bypass around the urban core of Chicago. However, since that time, the system has also evolved to serve both commercial and commuter-oriented traffic in the region. Areas of continuing growth may have inadequate connectivity or need enhanced access. Projects that address system enhancement needs support major developments planned for specific areas and can be in the form of improved interchanges, new interchanges, and aesthetic enhancement projects along Tollway right-of-way such as landscaping projects and sound barriers to minimize impacts to toll road neighbors.

Funding constraints severely limit the Authority's ability to initiate system enhancement projects. Therefore, other than previously committed projects, no new interchanges or noisewalls are a part of this plan. Committed projects are included in the project listings.

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7.0 The 10-Year Plan

Projects included in the 10-Year Plan are assigned to either the Renewal-Replacement Program or to the Improvement Program. A number of projects started prior to 2001; these are carry-over projects. Project information provided includes a Project Identifier or Project Number, a Title or Description, Project Limits, Year of Construction, Program Type and a Year of Construction Cost Estimate.

7.1 Identification of Projects

The 10-Year Plan presents an expanded and rehabilitated system to be constructed during the 2001-2010 period. **Figure 5 and Figure 6** graphically show the key pavement projects recommended for the years 2001 through 2005 and for years 2006 through 2010. **Figure 7 through Figure 9** show all Plaza, Interchange, and “*Illinois FIRST*” Initiative projects recommended for the next 10 years. A complete listing of projects is included as Appendix A to this report.

7.1.1 Systemwide Projects

Systemwide Projects scheduled for the 10 year period include:

- Emergency Frequency 800 MHz System Upgrade
- Microwave Communications System Upgrade
- Payroll and Personnel Computer System Upgrade
- Implementation of a Traffic Incident Management System
- Epoxy Pavement Marking
- Pavement Inspection and Analysis
- New Plaza Lane Equipment Upgrade
- Contracts for Design, Inspection and Survey Upon Request
- Computer Aided Dispatch & Traffic Information Processing System Upgrade for State Police and Maintenance
- Capital Equipment Purchase
- Transponder Purchase
- General and Traffic Consultant Contracts
- Oasis Site Remediation (5 years)
- Maintenance of Facilities

7.1.2 Major Projects by Route

Major roadway projects identified in the 10-Year Plan are listed by Tollway:

Tri-State Tollway

There are three key projects scheduled for the Tri-State Tollway within the five year period from 2001 to 2005. These projects include:

- Partial rehabilitation on the central Tri-State from 95th Street to Balmoral Avenue.
- Pavement and bridge rehabilitation on the south Tri-State from I-394 to 95th Street.

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- Resurfacing and bridge rehabilitation from Balmoral Avenue to Lake-Cook Road.

There are five major projects programmed in the period from 2006 to 2010. These projects include work primarily located within the North Central and Central Tri-State, including:

- Concrete restoration in the southbound lanes from 95th Street to Balmoral Avenue.
- Concrete restoration in the northbound lanes from 95th Street to Balmoral Avenue.
- Partial reconstruction and resurfacing in the southbound lanes from the Hinsdale Oasis to 31st Street.
- Partial reconstruction and resurfacing from Roosevelt Road to Wolf Road.
- The partial reconstruction and resurfacing from 95th Street to 83rd Street and from 75th Street to I-55 Ramp A (Plaza 37).

Northwest Tollway

There are four projects scheduled during 2001 - 2005. Three of the four projects cover the area from the east terminus at the Kennedy Expressway to Barrington Road. This work consists of pavement rehabilitation with two bridge repairs that are located east of Elmhurst Road. The fourth project consists of resurfacing from Plaza 9 to Newburg Road.

The period from 2006 to 2010 contains the following projects:

- Rehabilitation from Newburg Road to the west terminus.
- Reconstruction and widening eastbound from near Barrington Road to Plaza 9.
- Reconstruction and widening westbound from near Barrington Road to Plaza 9.

East-West Tollway

Three projects are scheduled during 2001 to 2005. Reconstruction and widening work in two projects is scheduled to be performed on the East-West Tollway in conjunction with the Naperville Road interchange project. Reconstruction is also scheduled between Route 59 and Washington Street.

The period from 2006 to 2010 contains the following projects on the East-West Tollway:

- Reconstruction and widening from I-355 to the Eisenhower Expressway.
- Reconstruction from the Naperville Road Interchange to I-355.
- Widening from Route 59 to east of Washington Street.

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East-West Extension

There are no major improvements scheduled on this route from 2001 to 2005. However, improvements scheduled for the East-West Extension are scheduled for the period from 2006 to 2010. The projects recommended for this period include:

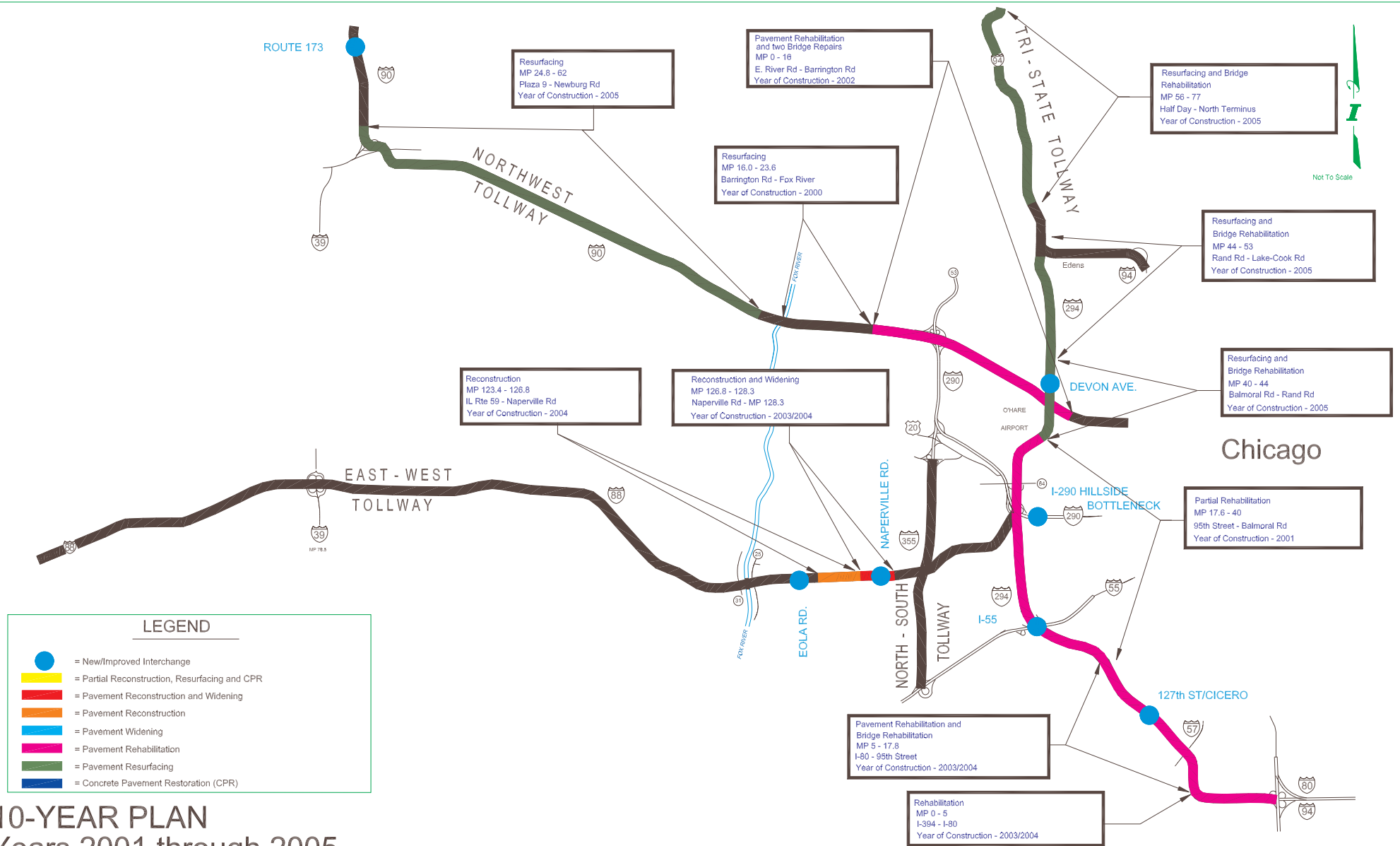
- Reconstruction and widening from Orchard Road to west of Farnsworth Avenue (Plaza 59).
- Reconstruction from Somonauk Road to Orchard Road.
- Reconstruction from west of Mulford Road to Kishwaukee River.

North-South Tollway

The first cycle of repair work on the North-South is not anticipated until 2010. At that time, concrete pavement restoration will be required between I-55 and the North Terminus. Also in 2010, bridge rehabilitation and the addition of auxiliary lanes, to facilitate interchange operations, will be required between 75th Street and Ogden Avenue.

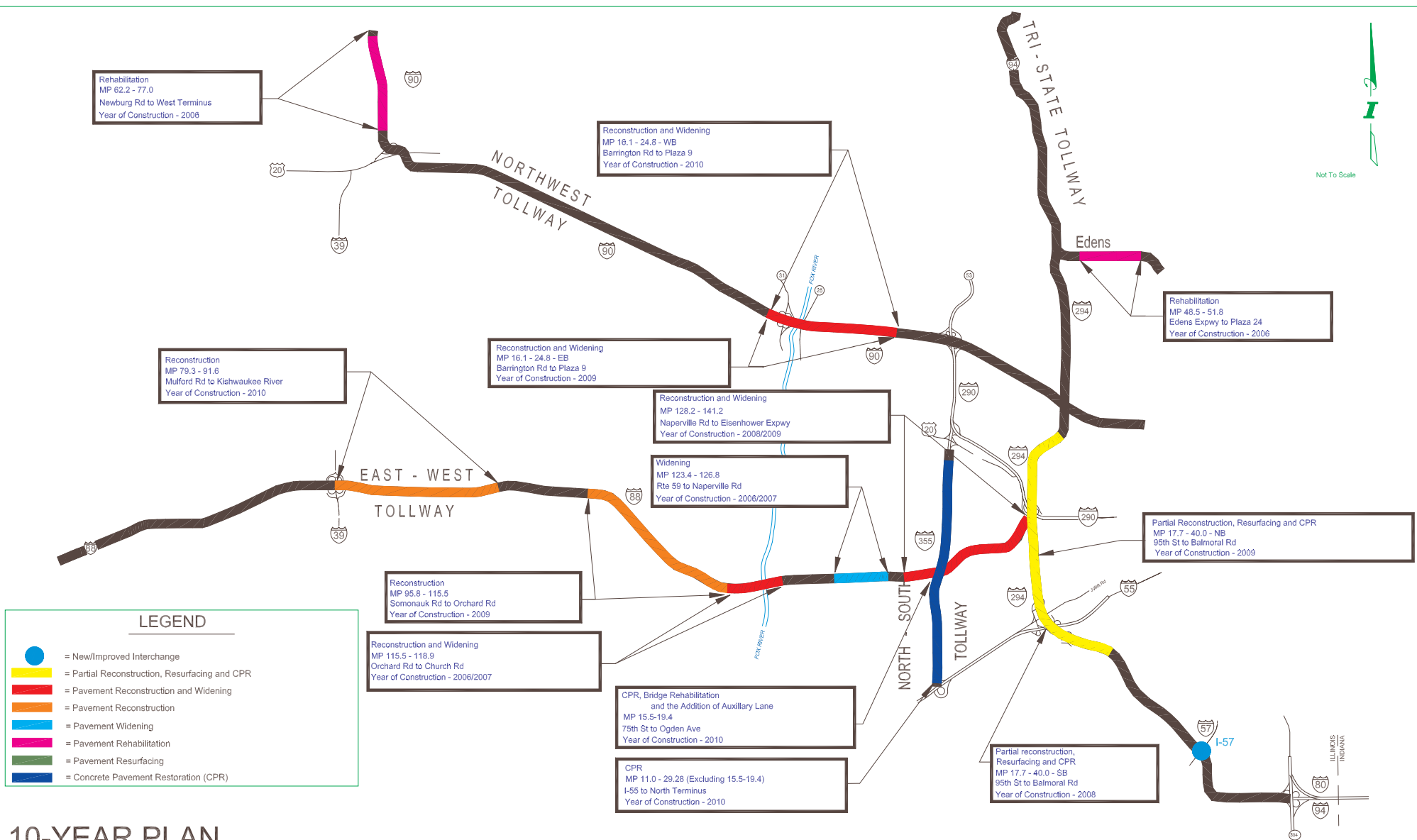
Edens Spur

Rehabilitation will not be required on the Edens Spur between the Edens Expressway and Plaza 24 until Year 2006.



10-YEAR PLAN
Years 2001 through 2005
Multi-Year Program
Roadway and Interchanges

TOTAL COST TO IMPLEMENT = \$728 MILLION
 (INCLUDES ROADWAY, INTERCHANGES AND SYSTEMWIDE IMPROVEMENTS)



10-YEAR PLAN

Years 2006 through 2010

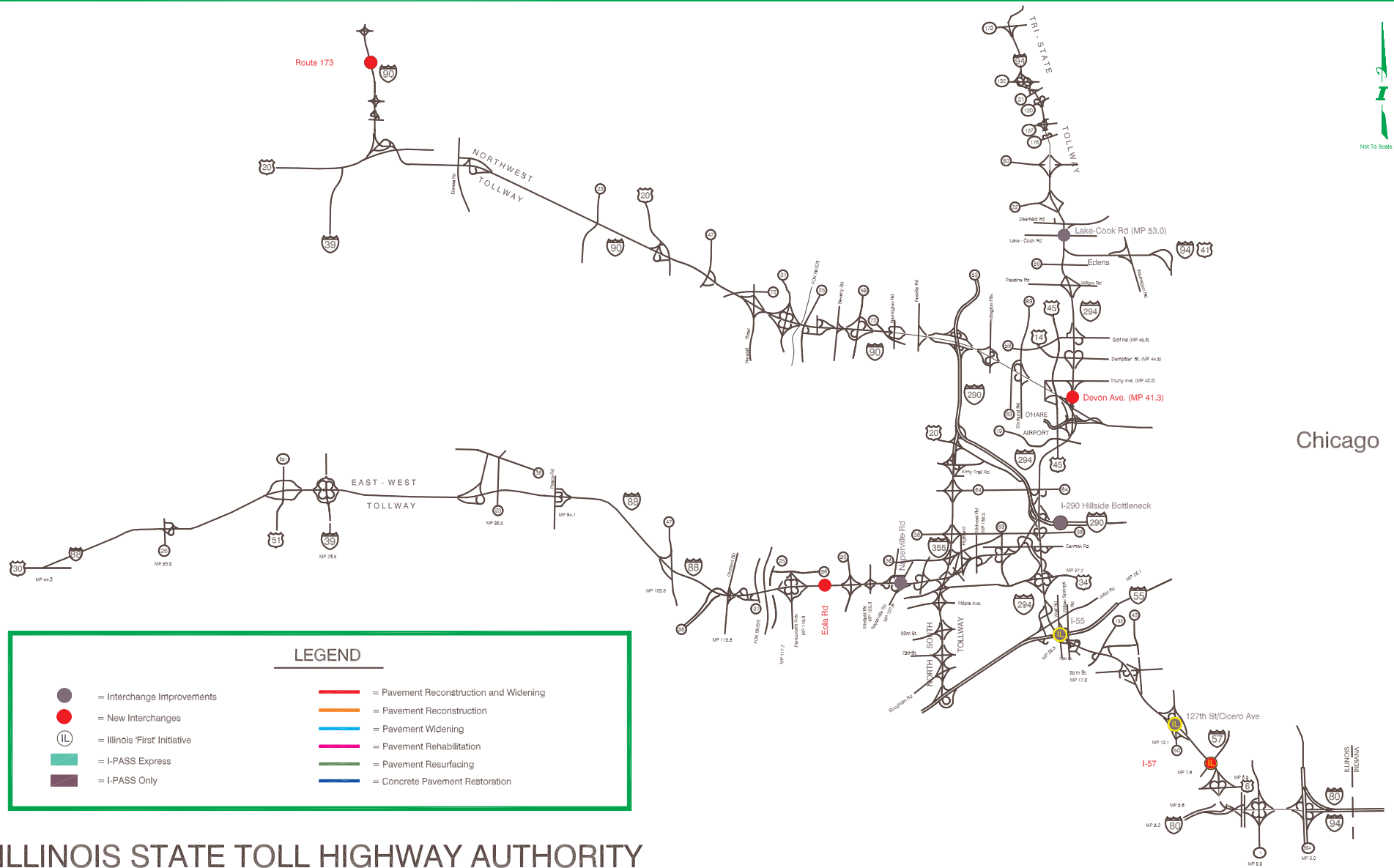
Roadway and Interchanges

TOTAL COST TO IMPLEMENT = \$1.9 BILLION

(INCLUDES ROADWAY, INTERCHANGES AND SYSTEMWIDE IMPROVEMENTS)



* Year 2000 Projects are shown for reference only

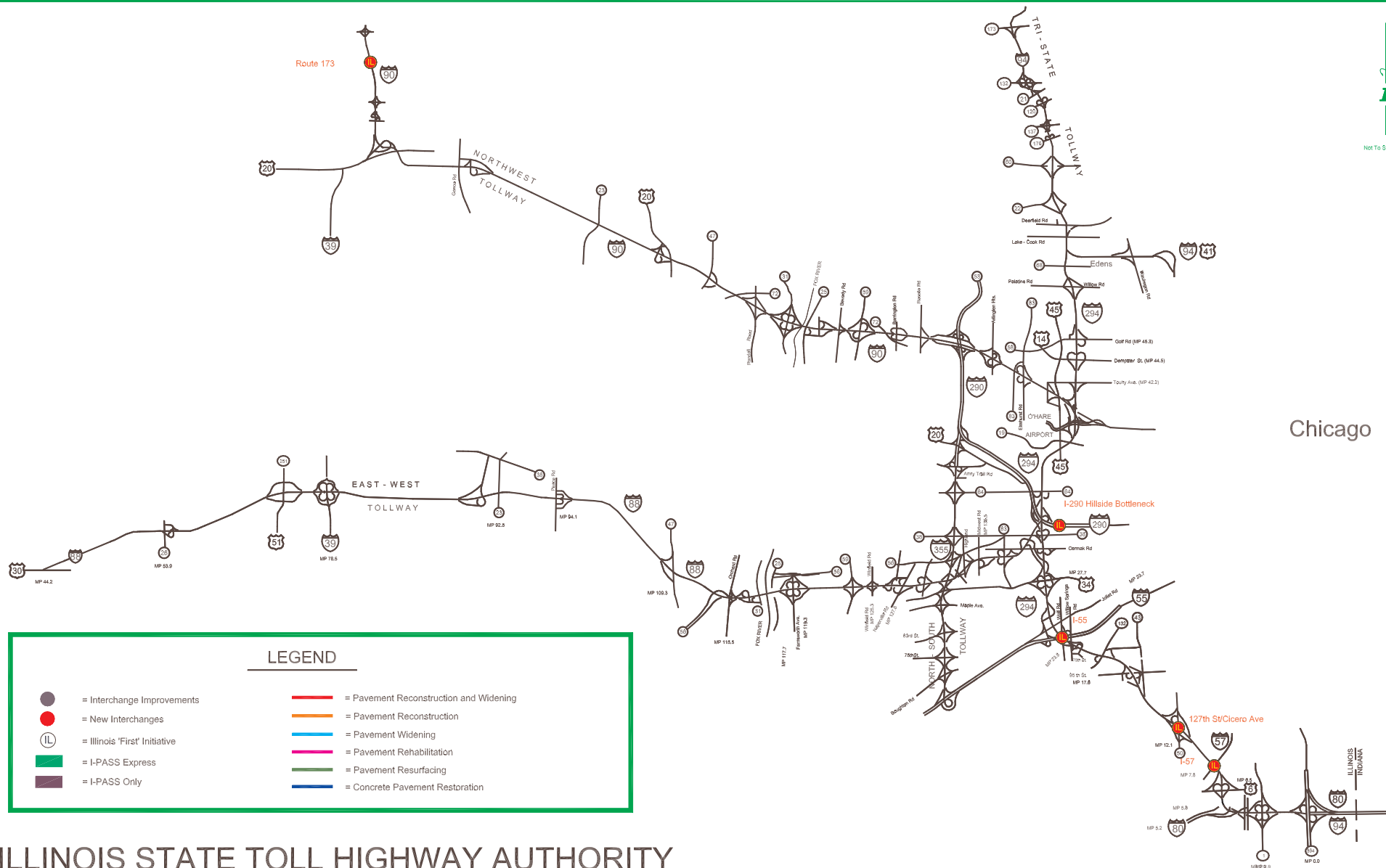


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10-Year Improvement Projects

Interchanges - Years 2001 through 2010

* Year 2000 projects shown for reference only



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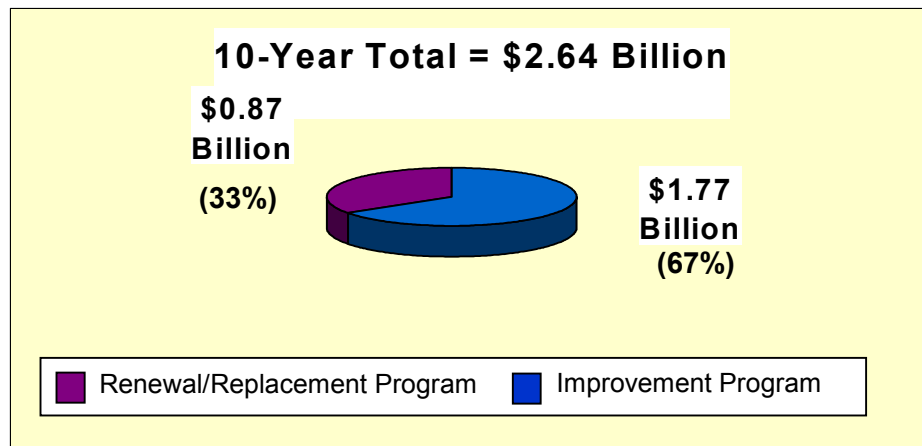
8.0 Project Costs

Identified costs provided in this report are total project costs and include design, construction, and right of way. Construction costs are presented in the “year of construction” dollars. The Authority’s cost participation for components of the “*Illinois FIRST*” program were included as a balloon payment reimbursing IDOT through the I-57/I-294 interchange project.

Construction cost estimates were based on historical project costs with a 5% escalation adjustment added. Engineering costs were assumed to be 9% of the construction cost for the Construction Section Engineering (CSE) and 8% of construction cost for the Design Section Engineering (DSE). Contingency costs were assumed to be 10% of the construction costs.

Total costs for the 10-Year Plan are shown in Figure 10. Approximately one-third of the award dollars are budgeted to the Improvement Program with the rest allocated to the Renewal/Replacement Program.

Figure 10 Total Plan Costs 2001-2010



The current multi-year program (2001-2005) addresses only the most critical repair needs of the system. Intermittent repairs, resurfacings and rehabilitations will be performed instead of reconstruction and widening, which are truly needed. While this strategy will maintain the system integrity through 2004, it cannot be continued beyond then due to the deterioration of the concrete base. By deferring the true needs of these segments from the early years of the plan, there is a considerable increase in the funding required in the out years of the plan when the necessary work can no longer be delayed without jeopardizing the integrity of the system.

The Annual Total Plan Cost for the 10-Year period ranges from \$124 million to \$575 million. Projects through 2004 are fundable with current revenue as part of the Authority’s current multi-year program. Projects beyond 2004 are not fully fundable without additional sources of revenue. The Annual Total Plan Cost for the 10-year period is separated by Program Type in [Table 4](#).

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Table 4
Annual Total Plan Cost
(In \$millions)

Year	Renewal-Replacement Account	Improvement Account	Total Plan Cost
2001	\$105.7	\$31.6	\$137.3
2002	\$102.5	\$20.8	\$123.3
2003	\$112.6	\$10.6	\$123.2
2004	\$153.1	\$4.2	\$157.3
2005	\$164.4	\$22.4	\$186.8
2006	\$153.1	\$115.6	\$268.7
2007	\$94.5	\$130.9	\$225.4
2008	\$232.9	\$99.6	\$332.5
2009	\$333.9	\$174.8	\$508.7
2010	\$313.2	\$261.7	\$574.9
Total	\$1,765.9	\$872.2	\$2,638.1

9.0 Project Phasing

Project phasing was considered in the development of the 10-Year Plan. This involved determining logical project sequencing, project prioritization, and providing provisions for project continuity.

The relative priority of the various projects and rehabilitation needs was considered along with the geographic proximity of projects to establish project schedules. Projects were scheduled to minimize the duration and frequency of construction. Two examples of this are the south Tri-State between I-394 and 95th Street and the north Tri-State between Balmoral Ave and the northern terminus. The projects in these two areas were scheduled in the same timeframe respectively, to minimize disruption and inconvenience to Tollway patrons.

Segments of the Tollway system east of the Fox River serve the largest volumes of traffic, therefore, these areas were deemed to receive the highest priority. Pavement sections that have a CRS ratings of 5 or less were also given a higher priority as these are below typical values that would trigger a need for some level of rehabilitation. It was assumed that whenever possible, roadway widening would occur at the same time as roadway reconstruction, and short project sections would be combined into larger segments. The intent was to minimize construction time in any given highway section by scheduling all work in one project. This will minimize inconvenience to the travelling public and will lessen the impact of reduced revenues because of the avoidance of construction areas by Tollway patrons.

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10.0 Consequence of Deferrals

As stated previously, the current multi-year program (2001-2005) addresses only the most critical repair needs of the system. Due to a lack of funding, intermittent repairs, resurfacings and rehabilitations are recommended where reconstruction and widening are truly needed. While this strategy will maintain the system integrity in the short-term, due to the deterioration of the concrete base it cannot be continued beyond 2005.

Additionally, if a pavement is resurfaced or rehabilitated when the true need is for reconstruction, then it will be several years before the truly needed work can be scheduled. As resurfacings and rehabilitations are anticipated to last 3 to 6 years and 8 to 10 years respectively, the Authority will need to get full value out of those projects before returning to reconstruct. An example of this is the rehabilitation work scheduled for the central Tri-State Tollway in 2001. Reconstruction of the two original pavement lanes is needed, but current revenues can only support their rehabilitation.

By deferring the true needs of these segments from the early years of the plan, there is a considerable increase in the funding required in the out years of the plan when the necessary work can no longer be delayed without jeopardizing the integrity of the system.

Beyond 2005, the 10-Year Plan addresses the reconstruction and widening needs of the system on a much larger scale. All elements of the system that warrant replacement would be reconstructed including pavements, bridge decks, and major building systems in tollway facilities. It should be noted though, that the two segments of the system in greatest need of reconstruction and widening (the south Tri-State and the east-end of the Northwest Tollway) will be passed over since they will undergo rehabilitation prior to 2005. Current revenue will not fund the reconstruction and widening of these two segments. Addressing the true needs of these segments will have to be deferred until after 2010.

11.0 Summary

As the Illinois State Toll Highway system enters the 21st century much of the basic infrastructure of the tollway system is approaching the end of its useful and economic service life. Many of the existing pavements are at the point where future performance is uncertain under more and heavier traffic loadings. Travel needs and project priorities are constantly changing. As a result, there is a need for an overall assessment of the tollway system and a need for the development of a strategic approach to address the anticipated needs. The proposed 10-Year Plan identifies system needs and provides short-term and long-term solutions to address these needs to the end of year 2010.

As the 10-Year Plan is implemented, it will begin to introduce the following benefits, especially in its latter years:

- Deteriorated pavements, bridges, facilities and building systems will begin to be replaced, thereby reducing future maintenance requirements
- Pavements will be reconstructed, thereby resulting in virtually maintenance free roadways for up to twenty years.

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- Operational and capacity improvements such as roadway widenings will begin to be implemented that will provide needed congestion relief
- Continual updating of toll collection technology will address toll plaza needs and reduce toll plaza congestion
- System enhancements will add selected interchanges and provide aesthetic enhancements
- Regional improvement needs will provide coordination with other transportation enhancements for growing communities along tollway corridors

12.0 Funding the 10-Year Plan

Toll revenues are projected to grow only marginally in the future, and by 2005, will not be sufficient to fully fund all of the needs for infrastructure preservation, congestion relief, regional improvements or system enhancement identified in this 10-Year Plan. In order for the Tollway system to remain a vital and viable component of the transportation system in northern Illinois, strategic decisions on how to preserve the assets of the system must be made. Implementation of this 10-Year Plan is dependent upon a sufficient revenue stream to fund identified projects.

APPENDIX A

Tollway	Project Number and Description		Year of	TOTAL
			Implementation or Construction	
Renewal and Replacement Program				
EW	5015	Bridge Rehabilitation MP 125.8 to 130.0	2001	\$6,436,109
EW	5016	Bridge Rehabilitation MP 138.1 to 140.1	2001	\$5,324,933
EW	5017	Central Warehouse Relocation (DuPage County Reimbursement)	2001	*\$0
EW	5018	Sign Shop Relocation (DuPage County Reimbursement)	2001	*\$0
EW	5029	Intermittent Pavement Repair and Bridge Rehabilitation MP 44.0 to MP 140.5	2001-2005	\$6,800,000
EW	5504	Overhead Sign Structure Repair	2001	\$210,395
EW	5608	Reconstruction and Relocate M-8 Study	2002	\$1,400,000
EW	5800	Naperville Road Interchange Reconstruction MP126.8-128.3 DuPage Participation	2002-2003	\$11,500,001
EW	5900	Hillside Strangler Illinois First Participation	2001	*0
EW	899	I-88 Under Washington Street	2001	\$579,795
EW	EWI03A1	Reconstruction MP 123.4 to MP 126.8	2004	\$36,000,000
EW	LR03	Pavement Reconstruction MP 131.4 to MP 141.2	2008-2009	\$160,200,008
EW	LR04	Pavement Reconstruction MP 128.2 to MP 131.4	2006-2007	\$47,800,000
EW	LR05	Pavement Reconstruction MP 115.5 to MP 119	2006-2007	\$25,400,000
EW	LR06	Pavement Reconstruction MP 95.8 to MP 115.5	2009-2010	\$157,300,008
EW	LR10	Pavement Reconstruction MP 79.3 to MP 91.6	2010	\$111,600,000
NS	LR09	Concrete Pavement Restoration MP 11 to MP 15.5 and MP 19.4 to MP 29.28	2010	\$25,000,000
NS	LR11	Concrete Pavement Restoration and Bridge Rehabilitation MP15.5 to MP 19.4	2010	\$13,000,000
NW	6008	Intermittent Bridge and Pavement Repair Plaza 9 - MP 25 to MP 62	2001-2005	\$3,500,000
NW	6010	Intermittent Pavement Repair and Bridge Rehabilitation Plaza 9 M) 25 to MP 36	Ongoing	\$219,239
NW	6011	Intermittent Pavement Repair and Bridge Rehabilitation MP 36 to MP 45.4	2001-2002	\$1,049,230
NW	6014	Rehabilitation of Pavement and Repair of two Bridges MP 0 to MP 5.2	2002	\$19,405,000
NW	6015	Intermittent Pavement and Bridge Joint Repair MP 0 to MP 16 (Inspection)	Ongoing	\$21,875
NW	6021	Pavement Rehabilitation (no bridges) MP 5.2 to MP 9.7	2002	\$19,405,000
NW	6022	Pavement Rehabilitation (no bridges) MP 9.7 to MP 15.2	2002	\$19,805,000
NW	6404	Window & Door Replacement at Plaza 1 (S Beloit)	Ongoing	\$6,678
NW	6520	Bridge Parapet Reconstruction and Retaining Wall Repair	2001	\$637,650
NW	6800	Participation with Cook County at Bartlett Rd	2005	\$1,971,100
NW	LR02	Pavement Rehabilitation with Thick Overlay MP 62 to MP 77	2006	\$69,400,004
NW	LR07	Pavement Reconstruction Eastbound Only MP 16.1 to MP 24.8	2009	\$58,200,000
NW	LR08	Pavement Reconstruction Westbound Only MP 16.1 to MP 24.8	2010	\$67,700,000
NW	NWI01	Pavement Resurfacing from MP 24.8 to MP 62.0	2005	\$56,000,004
**SW	477	Emergency Frequency Addition 800 Mhz System	Ongoing	\$260,019
SW	5006	Traffic and Incident Management System	2001-2002	\$3,905,925
SW	540A	Environmental Monitoring 7 LUST Sites	2001-2005	\$127,809
SW	564ES	Microwave Communications System Upgrade	Ongoing	\$3,467,632
SW	687	Payroll & Personnel System	2001	\$6,158,914
SW	726	800 Mhz Communications Upgrade (Radio Replace)	2001	\$900,000
SW	749	Landscape Maintenance - 5 years (1997-2002)	Ongoing	\$26,324
SW	9002	Epoxy Pavement Marking Systemwide 2001	2001	\$1,575,000
SW	9003	Epoxy Pavement Marking Systemwide 2002	2002	\$2,500,000
SW	9004	Epoxy Pavement Marking Systemwide 2003	2003	\$1,250,000
SW	9005	Epoxy Pavement Marking Systemwide 2004	2004	\$1,250,000
SW	9087	Pavement Inspection and Analysis 2001	2001-2002	\$150,000
SW	9088	Underwater Bridge Inspection every 5 years	2002	\$30,000
SW	9089	Pavement Inspection and Analysis 2002	2002-2003	\$150,000
SW	9090	Pavement Inspection and Analysis 2003	2003	\$150,000
SW	9091	Pavement Inspection and Analysis 2004	2004-2005	\$150,000
SW	9406	Upgrade of Building Generators	Ongoing	\$160,000
SW	9500	Noise Studies Upon Request	Ongoing	\$239,931
SW	9802	Construction Upon Request - Roadway	Ongoing	\$244,146
SW	9803	Construction Upon Request - Bridges and Facilities	Ongoing	\$74,006
SW	9806	Construction Upon Request 2002	Ongoing	\$261,000
SW	9808	Design Upon Request 2001	2001	\$300,000
SW	9810	Construction Upon Request 2001	2001	\$300,000
SW	9812	Design Upon Request 2002	2002	\$325,000
SW	9814	Construction Upon Request 2002	2002	\$325,000
SW	9818	Geographic Information System (GIS) Strategic Plan	Ongoing	\$70,863
SW	9819	Retoll 2000 Integrate Toll Collection System	2001-2005	\$7,575,000
SW	9821	Design Upon Request 2003	2003	\$325,000
SW	9823	Construction Upon Request 2003	2003	\$325,000
SW	9824	Design Upon Request 2004	2004	\$650,000
SW	9827	Novell NetWare conversion to Windows NT 4.1	Ongoing	\$255,495
SW	9828	Survey Upon Request - North Region	Ongoing	\$172,164
SW	9829	Survey Upon Request - South Region	Ongoing	\$231,170
SW	9830	CAD - TIP State Police and Maintenance	2001-2002	\$2,500,000
SW	9835	Aerial Photogrammetry and Mapping Service	Ongoing	\$150,897
SW	9838	Capital Equipment Purchase Plan/Fleet & All	2001-2005	\$37,619,229
SW	9839	Transponder Purchase	2001-2005	\$15,000,000
SW	989	Aerial Photography	Ongoing	\$40,857
SW	9895	Traffic Consultant	2001-2005	\$7,750,000
SW	9896	General Consultant	2001-2005	\$29,000,000
SW	9825	Construction Upon Request 2005	2005	\$650,000
SW	9902	Mainframe Legacy Systems Replacement/Upgrade	2001-2006	\$5,000,001
SW	9903	Disaster Recovery Study	2001-2002	\$300,000
SW	9904	Expansion of Internet and Intranet Services	2001	\$250,000
SW	9905	Boardroom Automation	2001	\$250,000
SW	9906	LAN/WAN Maintenance Upgrade	2001-2005	\$2,499,999
SW	9908	Web and E-Commerce	2001	\$500,000

Tollway	Project Number and Description	Year of Implementation or Construction	TOTAL
		Duration	
SW	9909 Fixed Facilities for Lane Gates	2001	\$1,000,000
SW	9910 Bridge Column Pier Inspection and Rehabilitation	2001-2002	\$6,500,001
SW	9911 Oasis Site Remediation	2001	\$2,000,000
SW	9912 Emergency Bridge Repairs (Contingency)	2001-2005	\$6,000,000
SW	EWCO - Extra Work & Change Order Supply Contingency	2001-2005	\$10,000,000
SW	FACII Maintenance of Facilities	2006-2010	\$25,000,001
SW	MISC Miscellaneous Annual Tasks Extended	2006-2010	\$149,999,992
SW	PS06 Epoxy Pavement Marking Systemwide 2005	2005	\$1,250,000
TS	542A Bridge Joint Replacement	Ongoing	\$25,429
TS	8007 Intermittent Pavement Repair South Tri-State	2001-2002	\$600,000
TS	8008 Intermittent Pavement Repair North Tri-State	2001-2004	\$1,200,000
TS	8100 Design for Partial Pavement Rehabilitation MP 17.6 - MP 40 (Projects 8101-8102)	Ongoing	\$585,109
TS	8101 Partial Pavement Rehabilitation MP 17.6 to MP 31	2001	\$16,200,000
TS	8102 Partial Pavement Rehabilitation MP 31 to MP 40	2001	\$14,400,000
TS	8936 Bridge Parapet Repairs North Ave/Lake St	2001	\$58,000
TS	8937 Grand Ave Northbound to Eastbound Ramp Improvements	2001	\$520,000
TS	LR01 Edens Spur Rehabilitation Thick Overlay MP 48.5 to MP 51.8	2006	\$20,100,000
TS	LR12 Concrete Pavement Restoration Southbound Only MP 17.7 to MP 40.0	2008	\$15,900,000
TS	LR13 Concrete Pavement Restoration Northbound MP 17.7 to MP 40.0	2009	\$16,700,000
TS	LR14 Partial Pavement Reconstruction with Resurfacing Southbound MP 25.3 to MP 28.9	2008	\$23,700,000
TS	LR15 Partial Reconstruction with Resurfacing from MP 30.7 to MP 36.5	2008-2009	\$97,899,996
TS	LR16 Partial Reconstruction with Resurfacing MP17.1 to MP 19.3 and MP 22.2 to MP 24.2	2008-2009	\$50,099,996
TS	TS01R Pavement Resurfacing and Bridge Rehabilitation MP 56.0 to MP 77.0	2005	\$40,000,000
TS	TS05 Pavement Rehabilitation and Bridge Rehabilitation MP 5.0 to MP 17.8	2003-2004	\$97,900,004
TS	TS09R Pavement Rehabilitation MP 0.0 to MP 5.0	2003-2004	\$68,700,000
TS	TS2R Pavement Resurfacing and Bridge Rehabilitation MP 44.0 to MP 53.0	2005	\$23,900,000
TS	TS4R Pavement Resurfacing and Bridge Rehabilitation MP 40.0 to MP 44.0	2005	\$14,600,000

Improvement Program

EW	5696 Eola Road Interchange	2002-2003	\$10,800,000
EW	5800W Naperville Road Interchange Widening MP126.8-MP 128.3 DuPage Participation.	2003-2004	\$4,100,001
EW	437 Aurora Plaza 61 Reconstruction and I-PASS Express	Ongoing	\$1,386,080
EW	LR03W Widening MP 131.4 to 141.2	2008-2009	\$183,499,992
EW	LR04W Widen 123.4 to 126.8 & 128.2 to 131.4	2006-2007	\$121,800,008
EW	LR05W Widening MP 115.5 to 119	2006-2007	\$49,900,000
NS	7800 Internationale Parkway - Woodridge	2003	\$1,401,000
NS	LR11W Addition of Auxiliary Lane MP 15.5 to 19.4	2010	\$130,500,000
NS	851 Lake County Transportation Improvement Project	Ongoing	\$2,832,858
NW	6601 New Interchange at Route 173 and I-90 IDOT Reimbursement	2004	\$2,000,000
NW	6901 South Beloit Plaza 1 IPO Lanes	Ongoing	\$142,776
NW	6905 Belvidere Plaza 5 IPO Lanes	2002	\$4,380,000
NW	6907 Marengo Plaza 7 IPO Lanes	2002	\$4,385,000
NW	6990 Northwest Corridor Transit Feasibility Study	Ongoing	\$10,400
NW	LR07W Widening East-Bound MP16.1 to 24.8	2009	\$84,900,000
NW	LR08W Widening West-Bound MP 16.1 to 24.8	2010	\$149,600,000
OB	950 O'Hare By-Pass (Blue Line/NW Widen Study)	Ongoing	\$975,524
SW	IPO-01 Truck IPO Lanes for 2001	2001	\$2,000,000
SW	IPO-02 Truck IPO Lanes for 2003	2003	\$1,000,000
SW	IPO-03 Truck IPO Lanes for 2004	2004	\$1,000,000
TS	459 New Interchange at I-57 and I-294 Study	Ongoing	\$600,733
TS	691 Devon Avenue Interchange	2002	\$11,802,413
TS	8303 I-55 at I-294 IDOT Interchange Improvement	2001	*\$0
TS	8600 Design for Ramps A B & D Lake-Cook Road	Ongoing	\$116,716
TS	8602 Lake-Cook Rd Ramp F underpass & Ramp D	Ongoing	\$20,341,348
TS	8603 New Interchange at I-57 & I-294	2006-2007	\$79,500,000
Ts	8604 127th & Cicero Interchange	2001	*\$0
TS	8901 IL Route 173 (Rosecrans) agreement with IDOT	2001	\$28,025
TS	450B3 Deerfield Plaza 25 Removal of Plaza 26C Lake-Cook Road	Ongoing	\$304,926
TS	793D Plaza 41-163rd Street I-PASS Express	Ongoing	\$1,999,852
TS	8934 I-PASS Only Lanes Plazas 33 35 36 & 39	Ongoing	\$684,574
TS	8610 Addition of Auxiliary Lane and Rehabilitation from Balmoral to Dempster Study	Ongoing	\$200,000

Improvement Projects \$872,200,000

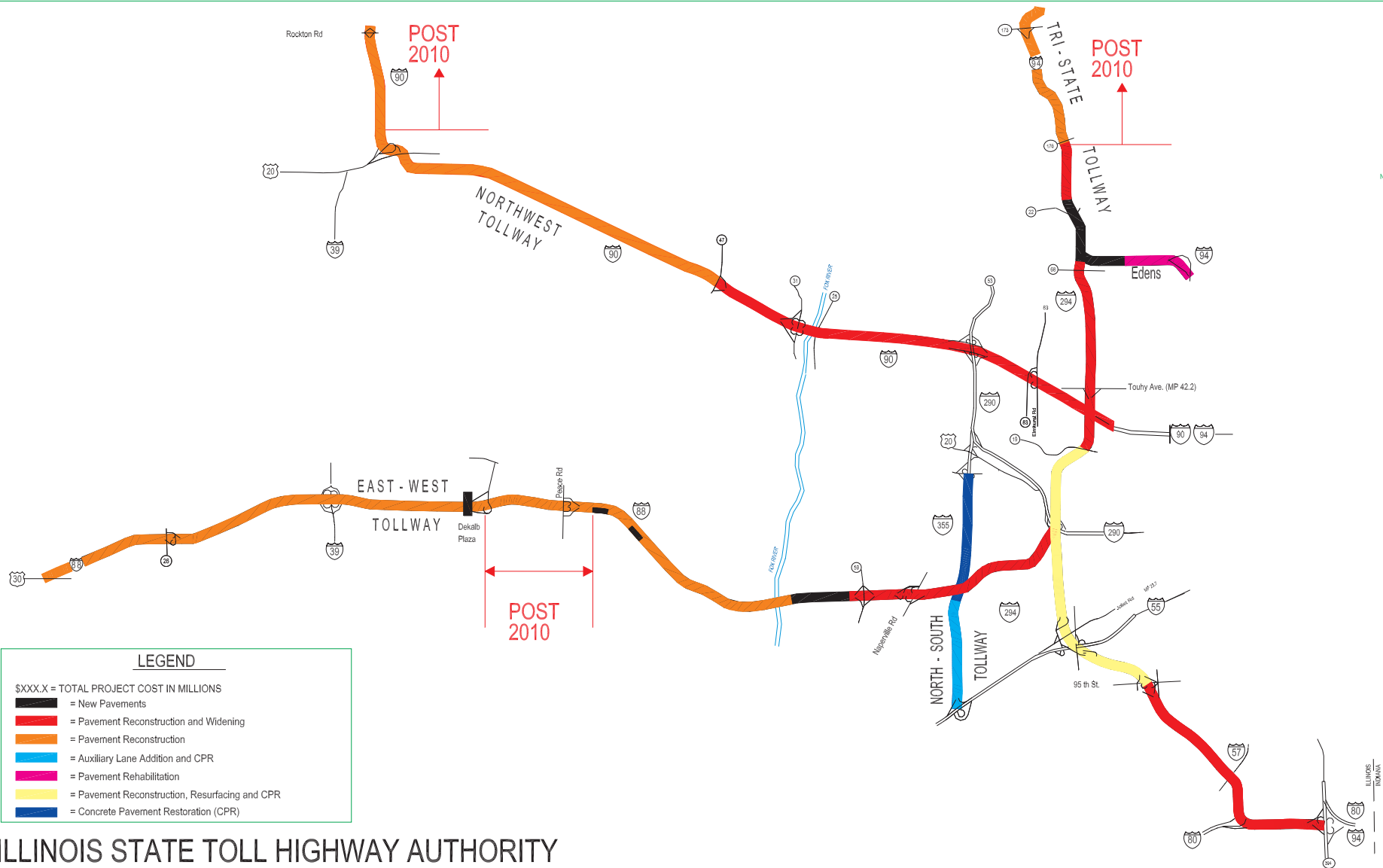
Renewal and Replacement Projects \$1,765,900,000

Grand Total \$2,638,100,000

* \$0 Reflects reimbursement of costs with other agencies.

**SW = Systemwide

APPENDIX B



ILLINOIS STATE TOLL HIGHWAY AUTHORITY

10-Year Improvement Needs

Years 2001 through 2010

TOTAL COST TO IMPLEMENT = \$4.4 BILLION

(INCLUDES ROADWAY, INTERCHANGES AND SYSTEMWIDE IMPROVEMENTS)