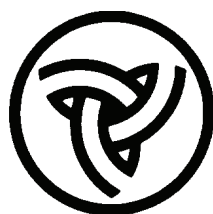

Chicago Metropolitan Urban Partnership

Proposal to Reduce Transportation System Congestion in Northeastern Illinois

Submitted to the
United States Department
of Transportation

April 30, 2007

by the



**Illinois Department
of Transportation**

Chicago Metropolitan Urban Partnership Executive Summary

Need to Address Chicago Area Highway Congestion

Metropolitan Chicago's congestion is among the worst in the nation. Monitors show that for more than 11 hours per day, more than 20% of our highway system is congested. Peak-period travel times are 150% of free-flow times. Moreover, unstable traffic flow, crashes, disabled vehicles, and other problems cause variations in travel times, requiring more time to be budgeted for trips.

Congestion's costs in our area are significant. The United States Department of Transportation estimates the annual cost of transportation system congestion in metropolitan Chicago at \$11.0 billion, of which 87% is related to highways. This expense includes direct costs of delay, productivity losses, environmental impacts, crashes and injuries, higher freight handling costs, and extra time budgeted for travel time variation (Wells, November, 2006).

Chicago Partnership Proposes Action

The Chicago Metropolitan Urban Partnership represents a commitment by the Illinois Department of Transportation, the City of Chicago, the Illinois State Toll Highway Authority, regional transit agencies, other local governments, and local business and civic groups to aggressively address congestion. The Partnership recognizes that various types of congestion mitigation and congestion pricing can be efficient and effective methods to reduce congestion, and intends to implement a combination of these if we are selected as an urban partner. The Partnership proposes actions in the Chicago Central Business District (CBD) and the Interstate 90 and Southwest Corridors. This submittal outlines the actions proposed by the Partnership.

The region is also committed to studying additional congestion mitigation options, but implementation requires significant preparation concerning public involvement, infrastructure, and supporting services, subject to more discussion.

Higher peak-period parking prices are proposed within the Chicago CBD to further reduce congestion. Some freight operations in the congested CBD would be curtailed during the peak period.

Along the tolled sections of I-90 (the Northwest Tollway and the Chicago Skyway), the Partnership proposes to identify and implement congestion pricing opportunities. Congestion pricing in locations where it is facilitated by existing toll collection facilities will have beneficial impacts throughout the corridor.

Congestion reduction in the CBD and on the I-90 and Southwest Corridors will be supported by integrated corridor management using technology and information to reduce delay. This approach will include substantial new suburban transit and improved urban transit operations. Travel demand will be managed to mitigate congestion.

Congestion in Metropolitan Chicago's Transportation System

Scope and Scale of Chicago Area Traffic Congestion

Traffic congestion in the Chicago metropolitan area is severe in intensity, widespread in extent, long in duration, and persistent in frequency. Metropolitan partners have extensive data collection and analysis programs in place to measure and manage system performance. These data help demonstrate the severity of Chicago's problem. Data highlights are presented below.

An Introduction: National Data Comparisons

When compared with other metropolitan areas, the Chicago area's congestion is among the worst in the nation. The Texas Transportation Institute's (TxTI's) frequently quoted *Urban Mobility Report* allows comparisons of congestion between regions. This report's Travel Time Index is the ratio of travel time in the peak period to travel time under free-flow conditions (60 mph on freeways and 35 mph on principal arterials). The 2003 Travel Time Index for Chicago was 1.57, ranking number two among U.S. cities, second only to Los Angeles-Long Beach (TxTI, *Urban Mobility Report*, 2005). The Texas Transportation Institute also calculates the annual delay per peak-period traveler. TxTI estimates metropolitan Chicago's annual delay per peak-hour traveler at 58 hours per year, ranking 7th nationally. These data demonstrate the intensity of the Chicago area's traffic congestion problem.

The newer, more focused "Urban Congestion Report" also shows significant congestion in Chicago compared to 19 other congested cities. Table 1 shows results for the reporting period November 2006 - January 2007.

Table 1
Urban Congestion Report Comparison, November 2006–January 2007

Measure	Chicago	Chicago Rank	National Composite	Explanation of Measurement
Congested Hours	11.6	Worst	5.980	Hours per day when 20% of system is congested
Travel Time Index	1.44	Third Worst	1.367	Ratio of peak-period travel time to free-flow travel time
Planning Time Index	2.01	Fourth Worst	1.834	Factor showing extra time to set aside for on-time arrivals because of travel time variation

Source: USDOT *Urban Congestion Report*, November–January 2007, National Executive Summary, Final.

Congestion in Metropolitan Chicago's Transportation System (Continued)

Intensity of Congestion:

The region's transportation agencies collect and maintain data revealing substantial congestion in the regional transportation system. Regional travel model results show that congestion is severe. Table 2 shows a regional summary, and indicates that the problem is particularly acute in low-income and minority communities.

Table 2
2005 Travel Speeds By Income Level

Ratio of Zone Income to Regional Mean Income	Freeway / Tollway Speeds (mph)	Arterial Speeds (mph)
<.25	33	21
.25 to .75	38	20
.75 to 1.25	45	27
1.25 to 1.75	46	28
> 1.75	45	27
All	43	26

Table 2 shows low daily average travel speeds. Travel speeds are lowest in low-income communities. Minority communities are similarly affected. The data presents network performance within low-income geographies.

Source: CATS 2005 RTP/TIP Conformity Analysis, Appendix A, Table 74.

Spatial Extent of Congestion:

Congestion is significant throughout Cook County, where nearly two-thirds of the regional population lives, and particularly acute in Chicago, home to nearly one-third of the region's residents. Nevertheless, congestion exists in many parts of the region, and many residents are impacted by traveling through congested areas. Figure 1 shows estimated 2005 speeds by area.

Duration of Congestion:

The duration of congestion is dependent upon the type and location of the facility. Data suggest that the arterial system operates at congested speeds for a greater part of the day than freeways, but there is less variation in travel times overall. Freeways have substantial variation by location and direction.

Table 3 and Figure 2 show average and 95th percentile travel times for selected facilities. Such data can be used to develop strategies for particular corridors.

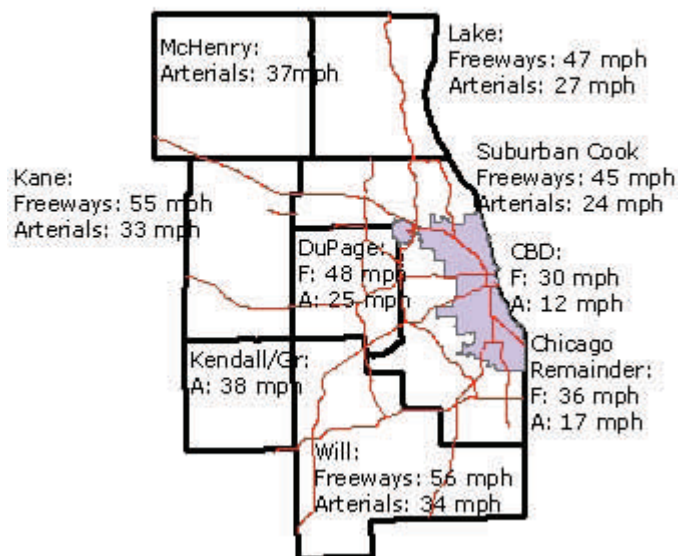
Congestion in Metropolitan Chicago's Transportation System (Continued)

Figure 1 shows low speeds in the CBD and in the City of Chicago. The 2006 CMS Status Report supported these numbers with an analysis of congested Vehicle-Hours Traveled (VHT). Congested VHT was most significant in the City of Chicago, Lake County, Suburban Cook County, and DuPage County.

Table 3 shows regional congested speeds through much of the day, particularly for arterials. However, variation in travel times is greater on freeways, both by time of day and within each time of day (see Figure 2, as an example).

Figure 1

Estimated Average Speed: Freeways & Arterials by County/District, 2005



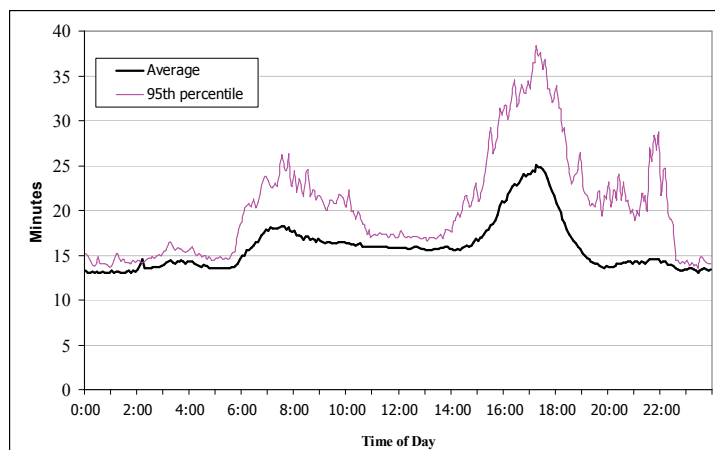
CATS 2005 RTP/TIP Conformity Analysis, Appendix A, Table 70.

Table 3
Regional Speed by Facility Type by Time of Day

Facility Type	8p-6a	6a-7a	7a-9a	9a-10a	10a-2p	2p-4p	4p-6p	6p-8p
Arterial	28	27	24	26	26	26	25	27
Freeway	51	45	36	42	43	41	40	48

CATS 2005 RTP/TIP Conformity Analysis, Appendix A, Table 70.

Figure 2
Sample Average and 95th Percentile Travel Times: I-55 Outbound



Source: CATS, Congestion Management System for Northeastern Illinois, 2006 Status Report. P. 3-14 Data is shown for July 2004 to June 2005.

The Local Public's Acknowledgement of the Congestion Problem

Metropolitan Chicago has more than eight million residents. The core values articulated by these residents include their personal mobility and accessibility to their homes, businesses, schools, and communities (*2030 Regional Transportation Plan*). Mobility of people and goods strengthens our economy. Yet traffic congestion threatens mobility and accessibility by increasing travel time and travel costs. Incidents, including traffic crashes, breakdowns, and other disruptions, add to the time people must set aside to take a trip and arrive on time.

A poll that was part of the public involvement process for the 2006 update to the Regional Transportation Plan indicated that “improved traffic congestion management” ranked 4.2 on a 5 point scale for importance. This poll also showed that about 86% “supported increasing overall levels of funding for transportation,” but not at the expense of other programs, and not just for “repair and rebuilding” (*Public Priorities for Regional Transportation Investment*, p. 18). This seems to indicate a desire for “value for money,” real improvements in return for better financing.

Chicago residents are voicing their opinions about congestion in formal surveys, opinion polls, and in active participation in the transportation planning process. Public involvement activity by the Chicago Area Transportation Study summarized in the *2006 Congestion Management System Status Report* (p. 2-8) indicated that more than 85% of the automobile users identified traffic congestion as a problem. About half of automobile users also noted “intersection delays” as issues. In addition, while the most frequent suggested improvements were for system expansions, large portions of the responses suggested specific improvements to highway and transit operations and services (pp 2-10 to 2-11).

Likewise, the Illinois Department of Transportation regularly conducts the “*Motorist Opinion Survey*.” The Spring 2005 survey found that road closures and detours, current and future transportation projects, travel conditions, and transportation funding and taxation were all issues in which majorities of the public were either “very” or “quite a bit” interested (p. 33).



Local Officials and Community Leaders Are Ready to Take Action: Our Partners

Support for Transportation Improvements

Reducing congestion is a priority for the Chicago region. Most notably, the Chicago Metropolitan Agency for Planning was established in 2005 to make better regional decisions to effectively address congestion and other regional challenges by merging the staffs of the Chicago Area Transportation Study and the Northeastern Illinois Planning Commission. The new regional agency reflects activity of partner agencies. For example, the Mayor of Chicago has established a Traffic Management Authority to better manage arterial highway congestion. The Illinois Tollway has instituted value pricing in the form of higher peak-period tolls for trucks. Transit agencies instituted value pricing by offering substantial discounts and better service for automated fares.

The region has committed substantial projected funds to congestion relief. The region plans to spend \$17.9 billion in capital improvements by 2030 to improve and expand the region's transportation system, including \$5 billion for arterial, bus, walking, biking and freight strategies. Moreover, the region will spend an additional \$47 billion required to maintain the existing system in good working order (CATS, *2030 Regional Transportation Plan*, 2006). Currently, the region has a capital funding shortfall that we are actively seeking to address.

Chicago has been selected as the United States candidate to host the 2016 Olympic Games, partly because of our extensive transportation infrastructure. To assure a successful Olympiad and to assure a continuing positive legacy from the Games, the region is pursuing transportation improvements and increasing our ability to manage our expressway system. Community support behind this effort is strong.

Our Partners

In response to our congestion challenge, many groups have developed strong, long-standing relationships that have led to substantial progress in the past. These parties will form the core of the Urban Partnership. Parties expected to participate in the congestion initiative include the following groups:

Government:

State of Illinois
Illinois State Toll Highway Authority
Regional Transportation Authority
City of Chicago
Cook, DuPage, Kane, Kendall, Lake, McHenry
and Will Counties
Pace
Chicago Transit Authority
Council of Mayors
Chicago Metropolitan Agency for Planning
Northwest Municipal Conference

Civic and Advocacy:

Center for Neighborhood Technology
Chicago Metropolis 2020
Metropolitan Planning Council
Chambers of Commerce

University and Private:

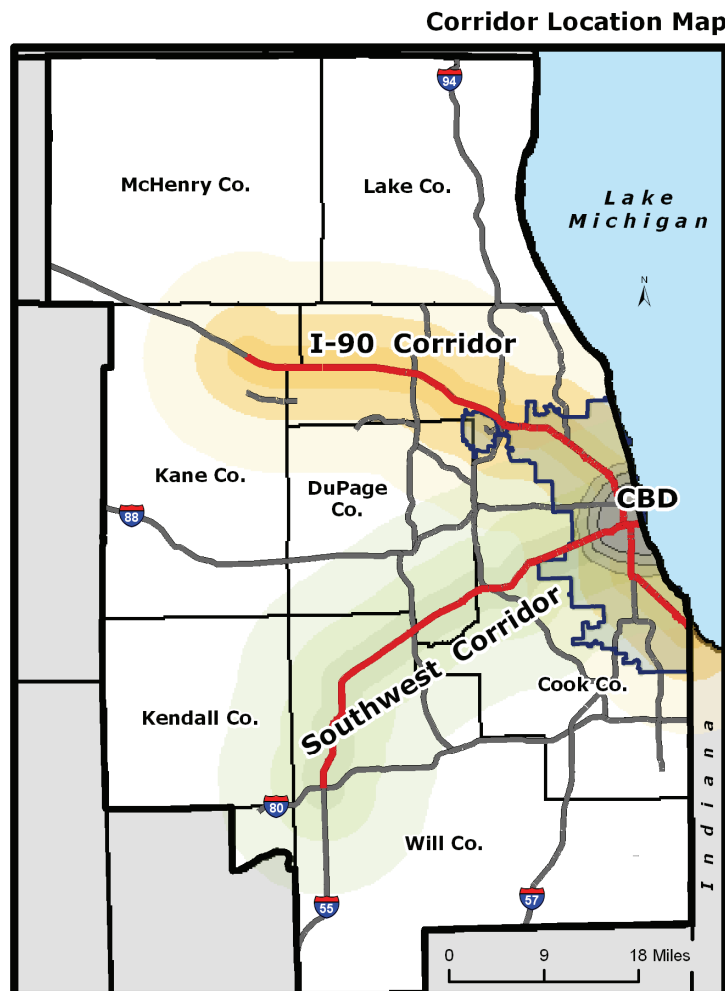
University of Illinois at Chicago
Northwestern University
Consulting Engineering and Planning Firms

Overview of Proposed Approach: Comprehensive Strategy

Corridor Approach

The Chicago Metropolitan Urban Partnership proposes congestion relief focused in the Chicago Central Business District (CBD), I-90 and Southwest Corridors. The I-90 Corridor ranges from Kane County through Chicago to Indiana. The Southwest Corridor stretches from Will County to Chicago. Some proposals focus on the CBD, and have the impact of reducing congestion in both corridors and regionally.

Our approach will address severe congestion in these corridors and the CBD. These corridors will be regional demonstrations of congestion pricing options and integrated corridor management, including transit enhancements and innovative applications of technology and travel demand reduction. The region is also committed to studying additional congestion pricing options and their congestion mitigation impact on the corridors and region.



Program Goals

The Chicago Metropolitan Urban Partnership has the following goals:

Reduce Travel Times

Reduce Congested Hours

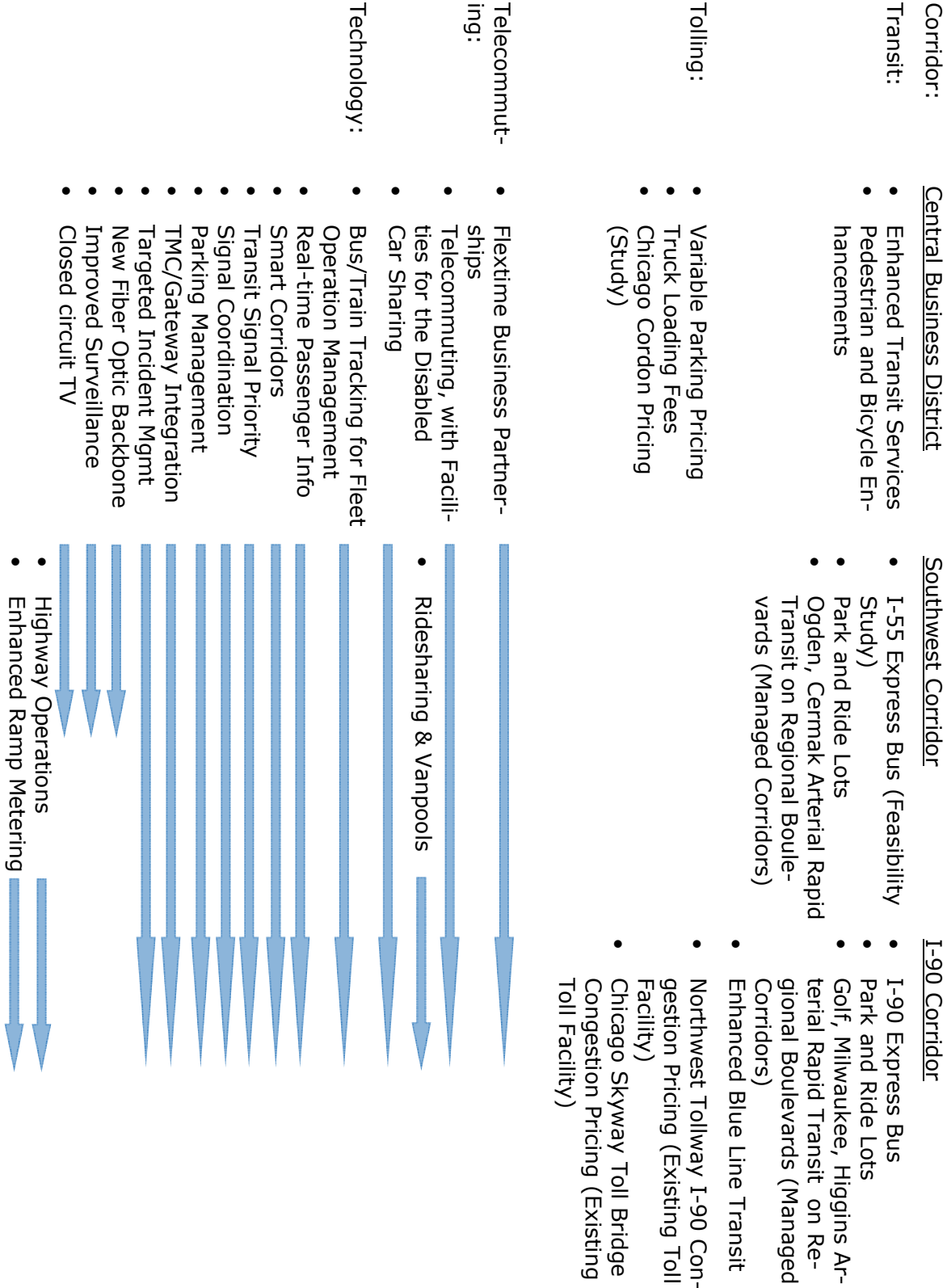
Increase Travel Time Reliability

Increase Person Throughput

Reduce Vehicle-Miles Traveled

Urban Partnership Program Pilots by Corridor

Overview of Proposed Approach: Comprehensive Strategy



Comprehensive strategy represents intent, but is subject to negotiation and approval by appropriate authorities. In addition, implementation of all proposals is subject to engineering feasibility studies.

Transit Services

Multi-Corridor

Arterial Rapid Transit and Integrated Arterial Corridor Management

The Partnership proposes implementing planned Arterial Rapid Transit (ART) along project corridors.

I-90 Corridor: Golf Road, Milwaukee Avenue, Higgins Avenue.

Southwest Corridor: Cermak Road, Archer Avenue, and Ogden Avenue.

Arterial rapid transit (ART) services will provide a viable transportation alternative to the single occupancy vehicle. ART operates in mixed traffic on arterial streets. ART integrates strategies for rapid passenger boarding and alighting with high operating speeds. These strategies include low-floor buses, far-side, far-spaced stations, real-time information, and traffic management solutions, such as transit signal priority and queue jump lanes. ART is integrated into the surrounding communities through feeder service. ART will be a backbone of regional boulevards providing multi-modal service with high person throughput.

The Partnership proposes that ART service in a corridor would achieve maximum benefits as part of a integrated arterial corridor management package. Transportation system and demand management strategies in a corridor management package are the keys to increasing the person throughput and economic activity of the corridor.

To increase the travel speed of a mixed traffic transit operation, the Partnership proposes to reduce congestion for all users, through traffic signal coordination, for example. To create an incentive for people to switch from their cars, transit speed must be increased during peak periods when general traffic experiences congestion. To achieve this, the Partnership also proposes transit signal priority coupled with queue jump lanes.

Parking management is an important supporting strategy to improve traffic flow as part of the arterial rapid transit program. This congestion management strategy might include peak-period on-street parking restrictions, complemented with other strategies, such as working with local communities and businesses to relocate parking off-street, improving business and transit accessibility (sidewalks, safe street crossings, illumination, etc.)

Other arterial corridor management strategies to be implemented as part of the integrated corridor management package will include surveillance and incident response, traffic control, lane management, information dissemination, and traffic law enforcement.

Requirements: Substantial (phased implementation beyond 2010). Engineering and economic evaluation; policy and legal actions and approval; substantial engineering and operations improvements; program evaluation and integration; public involvement; public information and signing; mass media promotion.

Transit Services

Multi-Corridor (Continued)

I-90 Corridor Express Buses: Northwest Tollway.

The Partnership proposes express bus service on freeways supported by feeder service. Express bus service would be provided on the Northwest Tollway. This express service will be an interim improvement, building transit market share for a proposed diesel multi-unit rail service.

Requirements: Moderate (expedited implementation of substantial service possible by 2009). Engineering and economic evaluation; potential infrastructure improvements, construction or upgrade of any needed pavement and access points to the lanes, and bridge work; program evaluation and integration; communications infrastructure; public involvement; public information and signing; mass media promotion; operations and maintenance.

I-55 Bus Rapid Transit (BRT) Shoulder Lane Demonstration Project (Feasibility Study)

This study will investigate the use of inside shoulders by fleet bus vehicles on I-55 between Illinois 53 and Damen Avenue. Congestion is severe on this facility and transit times are not competitive. By using wide inside shoulders, transit travel times may be significantly decreased as buses bypass congestion delay.

Phase 1: IDOT will perform a thorough feasibility study on this corridor. The study would specifically assess the safety and physical parameters of the entire route; pavement characteristics; signage and pavement marking requirements; lane separation options; enforcement operations and ingress/egress. In addition, the feasibility study will also examine existing state statutes and administrative rules, and applicable federal rules, codes, regulations, and acts to determine the legality of multi-use of highway shoulders. Independent of the outcome of the feasibility study, IDOT reserves the exclusive right to determine if any of the following phases will be considered for implementation. And by undertaking the feasibility study, IDOT is not committing itself, either intended or implied, to go beyond Phase 1. In the event the feasibility study determines that the use of this right-of-way for BRT is not practical, phases 2 and 3 will not be undertaken.

Phase 2: At the sole discretion of IDOT, Phase 2 would be a BRT express service demonstration between Illinois 53 and Damen Avenue in the Chicago Central Area employing lane-keeping driver assist technology. The BRT would operate on the inside shoulder of I-55 and provide bi-directional service to the CBD, the CTA Orange and Pink Lines, suburban park-n-rides, and employment centers. We would implement lane-keeping driver-assist technology (and corresponding operator training) to allow for use of potentially narrow shoulders.

Phase 3: At the sole discretion of IDOT, longitudinal driver-assist technology

Transit Services

Multi-Corridor (Continued)

would be introduced to establish the ability to operate buses safely with shorter headways. We would also field-test this driver-assist technology in adverse operating conditions.

Rapid Transit Improvements: I-90 Corridor: Blue Line (O'Hare Branch) Service on the Blue Line, providing service to O'Hare Airport in the I-90 Corridor, would be improved. Blue Line tracks will be upgraded to eliminate slow zones caused by deteriorating infrastructure, and will provide faster service.

This rapid transit service provides the core transit service in the northwest portion of the I-90 Corridor. Any program reliant on transit in this corridor requires service improvements on the Blue Line, which has experienced a degradation in service in recent years.

Requirements: Substantial. Engineering and economic evaluation; substantial engineering and operations improvements; program evaluation and integration; public involvement; public information and signing; promotion.

Bus/Train Tracking for Fleet Operation Management

This is an internal use of automatic vehicle location (AVL) technology. AVL enables managers to use this information to make real-time fleet management decisions. AVL also collect large amounts of vehicle data that can be used for system scheduling that reflects realities on the road, including express running and turn-arounds to address bus bunching and, very importantly, connection protection for transfers to and from feeder services or intersecting routes.

Requirements: Substantial. Technical, engineering and economic evaluation; substantial engineering and operations improvements; program evaluation and integration; public involvement; public information and signing; promotion.

Real-Time Passenger Information Systems

Real-time passenger information systems (RTPIS) provide vehicle arrival information to passengers at stations and stops through the Web, visual displays, or audio systems. Such systems improve quality perception by passengers through providing better information and increasing reliability, thus increasing ridership. Regionally integrated information would facilitate transfers. RTPIS requires regionally standardized information dissemination systems (such as LED signs or audio devices) and regional prediction accuracy standards.

Requirements: Moderate (assuming AVL deployment). Technical, engineering and economic evaluation; moderate engineering and operations improvements, including equipment procurement; program evaluation and integration.

Transit Services

Multi-Corridor (Continued)

Transit Supportive Pedestrian and Bicycle Facilities

To support transit service usage, the Partnership proposes to improve pedestrian and bicycle access to transit. Millions of walking trips to transit now take place in the region each weekday. Significant expansion of transit usage will require expansion of the walkable portion of the urban area. Key facilities will include sidewalks, roadway crossings, and transit passenger facilities.

Requirements: Substantial. Engineering and economic evaluation; substantial engineering improvements; program evaluation and integration; public involvement; public information and signing; mass media promotion.

Document continues on the next page.

Congestion Pricing Measures

I-90 Corridor

The Partnership proposes the following congestion pricing measures in the I-90 Corridor. To expedite implementation and to demonstrate benefits, the Partnership proposes to first implement congestion pricing on the Northwest Tollway and the Chicago Skyway Toll Bridge, where congestion pricing is facilitated by existing tolling technology in place.

Northwest Tollway (existing tolled facility)

The Northwest Tollway (I-90) is operated by the Illinois State Toll Highway Authority (the Illinois Tollway). The Illinois Tollway has implemented electronic toll collection system-wide using radio-frequency identification (RFID) to communicate with vehicles via dedicated short range communications (DSRC). Approximately 80% of Tollway customers have acquired transponders, since prices were doubled for cash payments. Thus, toll infrastructure on the Northwest Tollway already facilitates congestion pricing.

The Tollway recently implemented open road tolling for vehicles with transponders so that tolls can be collected while vehicles operate at highway speed. In addition, congestion pricing in the form of higher peak-period prices were implemented for trucks, but preliminary indications are that trucks were not highly responsive to modest peak-period price differentials on the interstate highway system.

Congestion pricing would be implemented at toll collection sites from Elgin to River Road, including the mainline toll collection sites, to maintain high operating speeds on the Northwest Tollway and reduced congestion on the adjacent Kennedy Expressway. Congestion on the Northwest Tollway is focused on three-hour-long peak periods in the peak direction (6:30—9:30 am inbound; 4:00—7:00 p.m. outbound), therefore, pricing changes would focus on higher peak-period fees during these hours. However, as the adjacent Kennedy Expressway shows substantial reverse commute congestion, reverse peak congestion pricing on the Northwest Tollway will be explored to determine effectiveness.

Congestion pricing at toll plazas along I-294 (Touhy and Irving Park only) would be evaluated to determine whether pricing is necessary at these locations to meet program goals along I-90.

Requirements: Minimal (implementation by 2009 is feasible). Engineering and economic evaluation; policy and legal actions and approval; program evaluation and integration; public involvement; public information and signing; mass media promotion.

Chicago Skyway Toll Bridge

The Chicago Skyway Toll Bridge (I-90) is operated by Skyway Concession Com-

Congestion Pricing Measures

I-90 Corridor (Continued)

pany, a private company operating under contract with the City of Chicago. The company uses a single barrier stop for toll collection, but has dedicated lanes for automated toll collection. Like the Illinois Tollway, the Skyway uses RFID and DSRC technology. The Skyway accepts both I-Pass and E-ZPass. Transponder use will likely increase on the Skyway when the Indiana Toll Road implements E-ZPass toll collection (interoperable with I-Pass) later in 2007.

Skyway traffic volumes more than doubled from 1995 to 2005. In addition, it feeds traffic into the Dan Ryan Expressway. The Dan Ryan has highly variable traffic times, with northbound traffic congestion occurring from 6:00 a.m. to after 6:00 p.m., and southbound congestion occurring from 3:00 p.m. to 7:00 p.m. Further study will be needed to determine whether congestion pricing on the Skyway would have an impact on the Dan Ryan.

Requirements: Minimal. Engineering and economic evaluation; policy and legal actions and approval; program evaluation and integration; public involvement; public information and signing; mass media promotion.

I-290 High-Occupancy Vehicle Lane / High Occupancy Toll Lane

The new high-occupancy vehicle facility proposed for I-290 between Oak Park and Hillside, in the western suburbs, may provide an opportunity for congestion pricing. The I-290 Corridor is an alternate to I-90 from Schaumburg to the CBD. The partnership proposes to evaluate the I-290 HOV proposal for its potential for use as an High-occupancy Toll (HOT) lane. Excess capacity in the HOV lane could be converted to toll operation, allowing the facility to be used by people who voluntarily prefer to pay a toll in return for the higher speeds. Using price, volumes would be managed to remain at 1500 to 1700 vehicles per hour to maintain highway speeds. The HOT lane would operate for high-occupancy vehicles (free) or for those with transponders. Other users would use the existing I-290 lanes, which would remain free of charge.

Requirements: Substantial. The I-290 project will cost many hundred million dollars. The incremental cost of adding toll collection, even when limited to transponder users as proposed, has not been evaluated. Toll collection gantries would be required. However, video surveillance and other features for HOT lanes may be the same as under the HOV scenarios.

Remainder of Tollway System

The region is committed to study additional congestion pricing, but implementation is dependent on infrastructure preparation, new services and public involvement, and is subject to further discussion. Congestion pricing will be explored within the context of a recently announced Value Pricing Pilot Program grant. This grant will support Partnership activities and facilitate further study.

Congestion Pricing Measures

Chicago Central Business District (CBD)

Variable Parking Pricing

Note: This project is focused on downtown Chicago but has substantial benefits for the region and for all corridors.

The Chicago Central Area contains over 100,000 off-street parking spaces (CATS, unpublished data, 1999). Working with parking owners and operators, the Partnership will implement value pricing for offstreet parking in the central area. Pricing may be based on expressway and arterial congestion, time of day (peak/off-peak), or parking occupancy. The intent is to reduce the congestion load caused by the concentration of vehicles simultaneously entering and exiting central area parking facilities during peak periods.

The City of Chicago currently collects a parking tax. This tax might be modified to be more focused on congestion. Long-term regular parkers tend to be price-responsive, while short-term parkers are less so. Parking operators now respond to these varying price elasticities by providing discounts to long-term parkers, and maintaining very high short-term parking rates. This strategy encourages long-term parking for commuters and reduces short-term parking capacity for travelers who arrive throughout the day for other purposes, impacting downtown business accessibility.

Typical downtown street volumes are 10,000 to 20,000 ADT. However, during the peak period, these streets have substantial congestion. Much of this congestion is caused by traffic operations challenges, particularly the interplay between on-street parking, off-street parking, and freight operations. Thus, the variable parking pricing program will be designed with companion freight initiatives to reduce arterial congestion by rationalizing prices for the use of congested urban space by various users.

The Variable Parking Pricing program will modify consumers' out-of-pocket driving cost to reduce congestion. Previous demonstration projects and experience have shown that consumers are responsive to changes in price, increasing the likelihood of success for a well-designed rate change.

Requirements: Minimal. Engineering and economic evaluation; policy and legal actions and approval; program evaluation and integration; public involvement; public information and signing; mass media promotion.

Truck Loading Fees

Note: This project is focused on downtown Chicago but has substantial benefits for the region and for all corridors.

Truck loading fees for on-street loading zones in the Central Area would be implemented through enhanced applications of the pay and display technology already used by the City of Chicago for on-street parking of private vehicles.

Congestion Pricing Measures

Chicago Central Business District (CBD)

The program will introduce paid truck loading zones in the most congested locations in Chicago's Central Area, with possible extensions to the Southwest Corridor and the I-90 Corridor.

Truck loading zones compete for other uses of busy streets, including both paid auto parking and parking for the disabled. Under the current system, the property owner requests a loading zone and pays an annual fee for use of the public way. Under the proposed system, the annual fee would be replaced or augmented by a pay-for-use system. The ability to increase loading zones will result in less double parking and other conflicts with moving traffic. The effect will be less congestion and smoother traffic flow.

The proposed fee for the Chicago Central Area would be based on congestion. To facilitate and simplify deployment, the initial implementation would set fees based on time of day to reflect existing congestion conditions. Increasing rates per hour would also be applied for longer stays to encourage turnover and assure available space for arriving trucks.

Requirements: Moderate. Engineering and economic evaluation; policy and legal actions and approval; cooperation with building and freight stakeholders; program evaluation and integration; enforcement issues; public involvement; public information and signing; mass media promotion.

Chicago Cordon Pricing (Study Only)

Note: This project is focused on downtown Chicago but has substantial benefits for the region and for all corridors.

This project would evaluate charging vehicles for entering the congested core of Chicago's Central Area, known as the Loop. The feasibility, design, and impacts of a possible pilot program involving cordon based pricing or other congestion pricing options would be evaluated. The City would evaluate vehicle classes (trucks or passenger vehicles) to be tolled, as well as hours of operation, fees to be charged by time of day, etc. For example, a narrow option that would charge only trucks making deliveries in the Loop during hours with greatest congestion (7:30-9:00 AM, 11:30 AM-1:30 PM, 3:00-6:00 PM) could represent the initial program. Broader programs will also be evaluated.

Telecommuting and Travel Demand Management (Multi-Corridor)

Business Partnerships for Flex Time and Staggered Work Hours

The Urban Partnership will interact with the business community including major employers located in the congestion-priced corridors to promote the benefits and encourage the implementation of flex time and staggered work hour arrangements not only as a means of reducing travel delay and congestion, but as a way of increasing goods throughput during peak periods and reducing the adverse effects on business enterprises of traffic congestion.

Ridesharing Promotion

The Urban Partnership will actively encourage the traveling public to explore ridesharing as a cost effective mode choice regardless of how the ridesharers obtain information on potential partners for such arrangements (workplace, official matching sites, social networking forums) and will support capital infrastructural improvements to the expressway and arterial road system that provide travel time (HOV/HOT Lanes) and access advantages (HOV Priority Ramp Metering) to high-occupancy vehicles. The Urban Partnership will encourage businesses in the targeted corridors to provide incentives for employee ride-sharing. The Partnership will promote Pace Suburban Bus's www.sharethedrive.org website for carpool matching.

Vanpooling Promotion

The Urban Partnership will actively encourage businesses to explore opportunities for expanding vanpooling amongst employees and to promote Pace's Vanpool Incentive Program (VIP) and other workplace travel services such as Van Shuttles. The Partnership will also promote vanpools to the general public given the increasingly dispersed nature of employment and the increasing prevalence of contract and short term work arrangements.

Car Sharing

The Urban Partnership supports car sharing services, particularly in relation to congestion priced areas. Car sharing reduces the need for parking and driving automobiles to and within a congestion priced area during traditional work hours. Car sharing also reduces the need for and expenses of owning and maintaining personal automobiles by residents of a congestion priced area.

Telecommuting, with a Focus on People with Disabilities

The Urban Partnership proposes telecommuting for the region. Special emphasis will be on provisions for people with disabilities. Greater telecommuting opportunities will increase workforce participation of people with disabilities, reduce the financial burdens of the congestion pricing plan on both user and operator, and also enable reallocation of transit resources from cost intensive paratransit services to line-haul transit services that provide the most effective alternate means of travel through and to a congestion priced area.

Travelers Affected

Counting travelers affected by the Partnership is difficult, but the following is indicative of the scale. The Chicago Central Area, for example, has a high concentration of jobs (more than 600,000). Approximately one-third of the commuters drive alone to work, though this ratio is lower in the transit-rich Loop, and much higher in the Outer Central Area, where transit is less abundant (data from RTAMS, 2007). As is typical for dynamic business districts, non-work trips in the CBD can be expected to be greater than work trips (CATS, 2006 *Conformity Analysis*). Traffic volumes (AADT's) of highways approaching the Central Area are high (nearly 300,000 each on the Dan Ryan and Kennedy Expressways; 200,000 on I-290; about 150,000 on I-55; and more than 100,000 on Lake Shore Drive north and south of the Central Area, totaling more than 1,200,000 AADT on six highways). Snapshots of other corridor travel data and travel counts are presented below.

The tables below show rapid corridor growth:

Forecasted REGIONAL TRIP GROWTH in Northeastern Illinois, by PURPOSE, Year 2000 to Year 2030

	Work Trips		Home Based Other	
	Produced	Attracted	Produced	Attracted
2000	6,296,186	6,296,111	13,966,572	13,966,374
2030	7,817,485	7,817,575	18,023,262	18,023,308
% Growth	24%	24%	29%	29%

Forecasted TRIP GROWTH, 2000 to 2030, Selected Collar Counties and Travel Corridor

		Work Trips		Home Based Other	
		Produced	Attracted	Produced	Attracted
Kane (Northwest)	2000	277,916	266,782	610,071	647,894
	2030	489,026	430,455	1,155,905	1,156,182
	% Growth	76%	61%	89%	78%
Kendall (Southwest)	2000	39,048	22,834	88,281	69,612
	2030	138,071	103,921	315,222	284,194
	% Growth	254%	355%	257%	308%
McHenry (Northwest)	2000	188,742	133,742	401,934	398,472
	2030	324,902	201,293	740,935	659,352
	% Growth	72%	51%	84%	65%
Will (Southwest)	2000	347,973	213,923	773,314	656,240
	2030	711,933	507,616	1,763,452	1,430,109
	% Growth	105%	137%	128%	118%

The tables at right demonstrate high traffic on the I-90 and Southwest Corridors. I-90 has more than 180,000 AADT on the Northwest Tollway, and 300,000 AADT on the Kennedy Expressway near downtown. Parallel arterials have more than 40,000 AADT each.

I-55 AADT's rise from nearly 100,000 in Will County to over 200,000 approaching the Central Area. I-55 dominates travel to and from the southwest, but sector arterials with AADT's greater than 40,000 include Cermak/22nd, Pulaski, Cicero, Harlem, LaGrange, and others.

Average Daily Traffic in Northwest (I-90) and Southwest (I-55) Corridor Areas

I-90 NW TOLLWAY TRAFFIC VOLUMES

	AADT	Truck %
Randall Road to IL Route 31	85,800	12%
Beverly Road to IL Route 59	119,700	6%
Roselle Road to IL Route 53	159,900	6%
IL Route 83 to I-294	182,200	6%
East River Rd to Cumberland Ave	220,800	4%
Harlem Ave to Nagle Ave	197,800	4%
Irving Park Rd to Addison St	300,000	6%
North Ave to Division St	311,900	7%

PARALLEL ARTERIAL VOLUMES > 40,000

	AADT
Higgins Rd from Roselle Rd to Plum Grove Rd	40,200
Higgins Rd from Plum Grove Rd to I-290/IL-53	41,900
Golf Road from Roselle Rd to I-290 / IL-53	45,900
Golf Road from I-290 / IL-53 to New Wilke Rd	52,000
Algonquin Rd from Meacham Rd to I-290/IL-53	40,400

I-55 STEVENSON EXP TRAFFIC VOLUMES

	AADT	Truck %
I-80 to US 52	84,000	20%
US 30 to IL Route 126	93,000	16%
IL Route 126 to Weber Road	108,000	17%
IL Route 53 to I-355	134,000	17%
Cass Ave to IL Route 83	160,900	16%
County Line Road to I-294	171,700	15%
IL Route 171 to Harlem Ave	156,700	16%
Cicero Ave to Pulaski Rd	179,300	12%
California Ave to Damen Ave	200,600	9%
Ashland Ave to I-90 / I-94	162,200	11%

CORRIDOR ARTERIAL VOLUMES > 42,000

	AADT
22nd St from Butterfield Rd to IL Route 83	42,000
Butterfield Rd from Highland Ave to 22nd St	45,900
Butterfield Rd from I-355 to Highland Ave	52,300
Butterfield Rd from IL Route 53 to I-355	42,800
Pulaski Rd from 79 th St to 71 st St	48,300
Cicero Ave from 55th St to Archer Ave	61,800
Harlem Ave from 63rd St to Archer Ave	49,600
US Rt 12/20/45 from IL Route 171 to I-55	67,400
IL Route 83 from I-55 to 75th St	51,600

Use of Technology

Metropolitan Chicago will expand and integrate technology available to manage its transportation system. We will begin by using existing technology infrastructure. Existing Radio Frequency ID and Dedicated Short Range Communications will be used to implement congestion pricing on toll facilities. Existing surveillance and highway signal systems will be used and integrated to improve operations. One important planned improvement is to integrate our county and City of Chicago traffic management centers into the regional ITS Gateway system, the integrated information system that provides data to operating agencies and the traveling public throughout the Gary-Chicago-Milwaukee ITS Corridor. Integration will facilitate response to rapidly changing highway conditions.

Chicago CBD Improvements

Technological expansion includes CTA's system-wide real-time bus tracking capability to improve customer and management information, and facilitating management to control bus bunching. Customer information will be initially distributed via the internet and mobile communications devices, and later to on-street sites such as bus shelters displays. In addition, technologies such as smart corridors, signal coordination improvements, parking management, targeted incident management, surveillance, and closed-circuit TV will also be employed here, all coordinated through the City's traffic management center. Existing fee collection infrastructure will be used to collect new truck loading fees.

Southwest Corridor Technological Improvements

Technology will be deployed to improve service to growing Southwest Corridor populations. Surveillance and closed-circuit television will be deployed on additional congested corridor segments, facilitated by a new fiber optic backbone. New transit service with lane-keeping technology will be studied for the shoulder of I-55. Later, if feasible, suitably equipped freight vehicles may be allowed use of the lane. Integrated corridor management approaches, including "smart corridor technologies," will improve parallel arterial traffic flow. Arterial improvements will include, among other strategies, transit signal priority, arterial variable message signs, parking management, targeted arterial incident management, signal coordination, and surveillance. Arterial improvements with transit are designed to complement improvements on I-55.

I-90 Corridor Technological Improvements

In addition to new express transit service on I-90, alternatives to congestion-priced facilities will be provided on parallel arterials, including Golf Road, Higgins Road, and Milwaukee Avenue. Like on Southwest Corridor arterials, integrated corridor management approaches will be deployed on these arterials. Smart corridor features proposed for deployment include, among other strategies, adaptive signal control, advanced signal systems, lane management, highway advisory radio, and enforcement technologies.

Research, Planning and Experience to Date

The Chicago region has a long history of actively managing the regional transportation system to improve performance. In the 1960's, IDOT was the first agency to experiment with ramp metering. Recently, the region has embraced Intelligent Transportation System technology on its highway and transit systems and has experimented with value pricing.

Pricing experiments to date have focused on facilities where payments are required. The Chicago Transit Authority, Pace, and the Illinois State Toll Highway Authority have all implemented steep discounts (up to 50%) for payments using electronic fare technology (smart cards and transponders). ISTHA's new toll structure was successful and resulted in high (80%) transponder use, which in turn allowed the desired move to open-road, free-flow tolling at all ISTHA toll plazas. Also, ISTHA has experimented with congestion pricing for trucks. While this experiment revealed that truck volumes are not sensitive to small price changes, it demonstrated a willingness to experiment with congestion pricing. Aside from Partnership activities, the region is committed to further evaluation of value pricing, with federal financial assistance for the study. Lastly, the Chicago Metropolitan Agency for Planning (CMAP) is studying congestion pricing through its regional household travel inventory process. The travel inventory will include a stated preference survey evaluating travelers' trade-off between price and time saved. Value pricing was evaluated and recommended in the 2030 Regional Transportation Plan when it was endorsed in 2003.

Chicago also understands technology and information. Chicago was a leader in implementing intelligent transportation systems through the Gary-Chicago-Milwaukee (GCM) ITS corridor. Technological leadership ranges from sophisticated signal systems operated by many agencies to the surveillance systems in place to monitor and manage traffic flow. For example, IDOT was an early leader not only in ramp metering but in placing detectors along its freeway system to monitor speeds and detect incidents. ISTHA followed suit with algorithms to determine segment speeds using transponder data. Both agencies and other agencies are supplementing this data with widespread video feeds and other monitoring in modern traffic management center, all to be linked to the GCM Corridor Gateway Program. The GCM Corridor Gateway is the core of the regional ITS architecture. The GCM Corridor uses the Gateway as an integrated information system to provide data to agencies and the traveling public.

Chicago also has more than a century of large-scale mass-transit use, with extensive commuter rail, rapid transit and bus systems, and a strong support system of shuttles, business support, and support for bicycling, walking, car sharing, and user information. In 2006, there were over 600 million unlinked passenger trips on the transit system, ranking Chicago second in the nation.

Project Schedule and Time Frame Considerations

To implement the Partnership activities, the Partnership proposes the following schedule, subject to approvals:

2007

- Federal and state agreements
- Intergovernmental agreements drafted
- Necessary board endorsements
- Public information and outreach
- Engineering & economic evaluation
- Program evaluation and integration
- Public involvement

2008

- Intergovernmental agreements approved
- Legal authority granted
- Engineering & economic evaluation
- Program evaluation and integration
- Public involvement
- Communications infrastructure

2009

- Engineering & economic evaluation

- Program evaluation and integration
- Public involvement
- Communications infrastructure
- Public information and outreach
- Construction
- Phase-in of program elements not requiring construction

2010

- Engineering & economic evaluation
- Program evaluation and integration
- Public involvement
- Communications infrastructure
- Public information and outreach
- Construction
- Phase-in of construction and non-construction program elements

2011

- Program evaluation and integration
- Public involvement
- Complete phase-in of substantial part of program elements

Time Frame Considerations

The Partnership recognizes that USDOT is seeking urban areas to implement comprehensive congestion reduction strategies, including congestion pricing, within a very short time frame (2–3 years). Thus, congestion pricing is best implemented where toll collection technologies are in place. We intend to implement these elements by 2009. Longer-term, broader implementation of congestion pricing is subject to further research, discussions, and negotiations, especially if Chicago hosts the 2016 Olympic Games.

As a national model of a fast-track implementation of technology and congestion pricing, the Illinois State Toll Highway Authority stands alone. A comprehensive program of congestion relief, “Open Roads for a Faster Future,” was developed and approved by the ISTHA Board within 21 months of new gubernatorial leadership. New rates, including significant value pricing features, took effect in three months, on January 1, 2005. By November 1, 2006, within 22 months, all twenty main-line toll plazas were equipped with free-flow mainline

Time Frame Considerations (Continued)

Funding Support

toll collection ("open road tolling"). Fast-track implementation is possible.

Some Partnership activities may require legislation, and while attorneys have been consulted throughout this process, a comprehensive legal review of new necessary authority has not been conducted. However, most of the proposed program, including congestion pricing components, are unlikely to require legislation. If new legislation is required, it would most likely take place in the 2008 legislative session.

No board or agency approvals have yet occurred. If metropolitan Chicago is selected as a Partnership, these approvals will be sought as soon as possible.

Capital elements, assuming expedited engineering, would be under construction from 2009 to 2015. Further analysis of congestion pricing and freeway management is also expected. Chicago has been selected by the United States Olympic Committee to be the United States prospect to host the Olympic Games in 2016. Thus, all congestion relief and transportation management activities should be fully implemented in time for the 2016 games.

Proposed Funding Support:

The Chicago Metropolitan Urban Partnership seeks the following (federal share, in thousands):

Fund Source:	<u>VPP</u>	<u>ITS- OTMC</u>	<u>5309</u>	<u>TCSP</u>	<u>Match</u>	<u>Total</u>
Variable Parking Pricing	4,400				1,100	5,500
Chicago CBD Cordon Pricing Study	720				180	900
Commercial Vehicle Loading Fee	5,600				1,400	7,000
I-55 BRT Shoulder Lane Demonstration Project		600			150	750
Northwest Tollway I-90 Congestion Pricing (Existing Toll Facility)	35,468					44,335
Chicago Skyway Toll Bridge Congestion Pricing (Existing Toll Facility)	TBD					TBD
CTA Bus Replacement Program			13,791			
Park and Ride Lots			8,000		2,000	10,000
I-90 Express Bus	4,800		88,640		23,360	116,800
Bus Arterial Rapid Transit on Regional Boulevards	8,640		268,792		69,358	346,790
ART and Express Bus Feeder Routes	2400		5,936		2,084	10,420

Funding Support

The Chicago Metropolitan Urban Partnership seeks the following (federal share, in thousands):

Fund Source:	<u>VPP</u>	<u>ITS-OTMC</u>	<u>5309</u>	<u>TCSP</u>	<u>Match</u>	<u>Total</u>
Enhanced Blue Line Transit				80,000	20,000	100,000
Pedestrian Transit Access				1,120	280	1,400
Bike Station: Self Service Bicycle Rental Program				1,280	320	1,600
Pedestrian Countdown Signals		728			182	910
Chicago Flextime business partnerships and Telecommuting Programs				1,760	440	2,200
Suburban Telecommuting, Ride-sharing and Vanpools	2,400				600	3,000
Car Sharing	439			400	130	1,079
Bus Tracker		34,978			8,744	43,722
Train Tracker		5,219			1,305	6,524
Smart Corridors		22,052			5,513	27,565
Transit Signal Priority						
Signal Interconnects		35,100			8,775	43,875
Signal Optimization		1,642			410	2,052
Parking Management		600			150	750
Gateway—City/County Traffic Management Center Integration		5,630			1,408	7,038
Targeted Incident Mgmt		6,016			1,504	7,520
New Fiber Optic Backbone		3,400			850	4,250
Improved Surveillance		4,800			1,200	6,000
Closed Circuit TV		1,800			450	2,250
Total	\$64,867	\$122,565	\$385,159	\$84,560	\$151,893	\$804,230

Urban Partnership Program Capital Costs by Fund Source

Contact Information

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The following key people helped prepare this submittal and related grant applications. Contact should be coordinated through Mr. Spacek, above, but contact information is provided here for reference.

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