

SECTION 8

Financing Transportation Improvements

Financing Transportation Improvements

8.1 Introduction—Financing Improvements

The development of the Will County 2030 Transportation Plan addresses the anticipated infrastructure needs based on the projected growth in development. Along with identifying the needs, it is imperative to balance those needs with available financial resources. A strategic planning process requires that priorities be established to allocate the limited resources to the competing needs. The Will County 2030 Transportation Plan first considers a broad spectrum of needs based a financially unconstrained basis, and then subjects the roadway improvements, under the jurisdiction of the county, to a prioritization process that forms the basis for a financially constrained plan.

8.2 Funding for Transportation Projects

The funding for streets and highways within Will County come from a variety of sources including federal, state, and local resources. A majority of state programs are financed from federal funds with additional revenues from State Motor Fuel Taxes (SMFTs). Local programs rely on state subsidy of motor fuel tax revenue, property and sales taxes, local fees, and to a lesser extent, federal assistance through metropolitan planning organizations.

The guidelines set forth in 1991 with the Intermodal Surface Transportation Efficiency Act (ISTEA) specified that long-range transportation plans provide a financial analysis that demonstrates an implementation schedule for long-range projects. Under ISTEA, most federal funding was divided into specific program categories that restricted the use of the funds. As stipulated in the Transportation Equity Act for the 21st Century (TEA-21), which was signed into law in 1998, there were fewer restrictions placed on federal funding so that funds dedicated for highways could be used for non-motorized facilities, historic preservation, and aesthetic improvements. On August 10, 2005, the Safe, Accountable, Flexible and Efficient Transportation Equity Act of 2003 – A Legacy for Users (SAFETEA-LU) was signed into law. The act provides federal funding for a 5-year period from 2004–2009. This act continued with the spirit of ISTEA of 1991 and TEA-21 of 1998 and encouraged the use of performance-based approaches in the development of the transportation plan.

In January 2008, as part of increasing funding for the RTA, the Illinois General Assembly approved legislation that also authorized collar counties to levy a 0.25 percent sales tax increase, the proceeds of which are to be used for infrastructure and safety improvements. In Will County, the additional RTA tax funds have been committed to the Build Will program. Additionally, in September 2008, the Will County Board approved a resolution authorizing up to \$100 million in bonding to support the Build Will program, using the additional sales tax revenue as the means to retire the bonds.

8.2.1 Roadway Financial Resources

The four primary funding sources from which Will County receives a majority of the revenue are listed below. In addition, the County may apply for additional revenue through a variety of programs depending on the proposed project. These other funding resources are included as reference.

- **State Motor Fuel Tax**—The State of Illinois collects \$0.19 per gallon of motor fuel sold in the state. A distribution formula is used to allocate these funds to counties based upon the number of registered vehicles within the county. The revenue from SMFT is approximately \$6.7 million annually for Will County.
- **Local Revenues for Property Taxes**—One source of local revenues is from property tax levies which include the highway, bridge, and highway matching levies. Property taxes generate approximately \$7.1 million annually.
- **Surface Transportation Program-Local (STP-L) funds**—The STP program is one of the main efforts of the Will County Governmental League (WCGL), and provides the most direct avenue for local governments to receive federal funding for local surface transportation projects. Approximately \$1 million is available from the WCGL annually. Twenty-two municipalities and Will County within the boundaries of the WCGL are eligible and encouraged to apply for the STP dollars.
- **Surface Transportation Program-Rural (STP-R) funds**—STP funds allocated to counties for rural highways. Will County's allocation annually is approximately \$0.8 million.
- **RTA Sales Tax**—In January 2008, the Illinois General Assembly adopted legislation that authorized the RTA to enact a 0.25 percent sales tax increase in each of the six counties in northeastern Illinois, including Will County. The bill also gave Will County the ability to levy a 0.25 percent sales tax increase to be used for local improvements. This additional sales tax revenue is expected to generate approximately \$19 million annually. These additional funds will be used to implement the Build Will program, but are not guaranteed to the Will County Department of Highways after completion of the Build Will projects.

There are other funding programs that the WCDH has access to either through shared funding agreements or through direct allocation. These sources of funding are as follows:

- **Congestion Mitigation and Air Quality (CMAQ) Improvement Program**—This program funds transportation projects that help non-attainment areas meet the requirements of the Clean Air Act Amendment. The program funds projects that will reduce congestion and/or provide an air quality benefit. The program is financed with federal dollars through CATS.
- **Highway Bridge Program (HBP)**—This program provides assistance for the rehabilitation or replacement of bridges. The program is financed with federal dollars through IDOT.

- **Illinois Transportation Enhancements Program (ITEP)**— This program was designed to broaden the transportation focus from Interstate and highway projects to making our communities more livable. The program is financed through IDOT.
- **Truck Access Route Program**— This program provides financial assistance on a per project basis with the incremental cost of improving local highways to meet the additional weight and geometric modifications for truck accessibility. The program is financed through IDOT.
- **Bike Path Grant Program**— This program provides support for acquiring, constructing, and rehabilitating public non-motorized bicycle paths and directly related support facilities through local agencies. The program is financed through the Illinois Department of Natural Resources (IDNR).
- **Grade Crossing Safety Protection Program**— This program assists with the cost of installing necessary improvements with the objective of reducing accidents at railroad/highway crossings. The program is financed through Illinois Commerce Commission (ICC).

For roadways not under the jurisdiction of the WCDH, funding would be coordinated by the controlling jurisdiction. The tollway facilities are funded through the Illinois State Toll Highway Authority, Interstate, U.S. routes, and state highways through the Illinois Department of Transportation, and local roads through the townships and municipalities.

8.2.2 WCDH Projected Revenue Summary

WCDH annual revenue sources were expanded to a 25-year cumulative total. For those funding sources that change with time, an annual expansion factor was developed to grow or reduce the revenue source based on historical trends. Some revenue sources are anticipated to remain constant over the 25-year study period.

The current sources of revenues yield \$1.1 billion, in 2005 dollars, in cumulative revenue between 2005 and 2030. A large percentage of the existing revenues go to operations and maintenance (approximately 55 percent). Given the size and cost of capacity-enhancing projects, which typically cost in the tens or hundreds of millions, the annual revenue available to the WCDH is typically insufficient to construct a capacity improvement project during any given year. As a result, the highway funds are collected and accumulated over several years in order to finance improvements. This multiple year fund is then sufficient to cover the total cost of some of the larger transportation projects needed to support the growing population of Will County. This is not meant to imply that Will County has a sufficient budget for all necessary improvements; currently there are not sufficient funds to meet the need. **Table 8-7** at the end of this section details the projected revenue.

It should be noted that in September 2008, the Will County Board authorized the sale of up to \$100 million in bonds to support the Build Will program. The bonds would be retired using the 0.25 percent sales tax increase authorized by the General Assembly in January 2008.

8.2.3 SAFETEA-LU Projects

SAFETEA-LU identified several projects located within Will County with earmarked funding. Although these projects do not provide annual revenue, their listing is included here to provide a magnitude of the dollars earmarked for specific projects in Will County.

- Bill No. 295 For IDOT to conduct Phase II engineering for the reconstruction of 159th Street – U.S. 6 – Illinois 7 in Will and Cook Counties (\$800,000).
- Bill No. 296 For Will County to begin Phase II engineering and preconstruction activities for a high level bridge linking Caton Farm Road with Bruce Road (\$1,600,000).
- Bill No. 963 For engineering, right-of-way acquisition, and reconstruction of two existing lanes on Arsenal Road from Baseline Road to Brandon Road (\$1,700,000).
- Bill No. 1191 For IDOT to expedite pre-construction and construction to widen I-55 from Naperville Road south to I-80 (\$2,800,000).
- Bill No. 1378 For Will County for engineering and right-of-way acquisition to extend 95th Street from Plainfield Road east to Boughton Road (\$400,000).
- Bill No. 2040 For U.S. Route 30 intersection signals, turn and deceleration lanes between Williams Street and Illinois Route 43 including 80th Avenue, Wolf Road, Lincoln Way High School, and Locust Street (\$5,600,000).
- Bill No. 2916 Allow IDOT to proceed with engineering and construction of Airport – Lockport Road and Illinois Route 126 interchange of I-55 (\$1,600,000).
- Bill No. 3033 For Plainfield Township Park District to construct DuPage River Bike and Pedestrian Trail linking Grand Illinois, Midewin, I&M Canal trails (\$80,000).
- Bill No. 3182 Construction of highway approaches to the Sullivan Road Bridge in Aurora (\$1,280,000).
- Bill No. 3533 Upgrade roads in Plainfield (\$240,000).
- Bill No. 4060 Construction of Joliet Arsenal Road improvements, Will County (\$2,000,000).
- Section 1034
 - Construction of Joliet Arsenal Road Improvements in Will County (\$1,000,000). High Priority Bus and Bus Facility.
 - Joliet, IL – Union Station commuter parking facility (\$2,403,500).
 - Pace Suburban Bus, IL South Suburban BRT Mobility Network (\$418,000).

- Section 3043(c)
 - Metra SouthEast Service (SES) – Commuter Rail for preliminary engineering.
 - Metra Star Line Inter-Suburban Commuter Rail for preliminary engineering.

8.2.4 Public Transportation Funding

Funding for public transportation in Will County is primarily the responsibility of the RTA, along with the individual transit service agencies, Pace and Metra. In addition to coordinating the funding for operating public transportation in the County, these agencies conduct short-range capital programming and coordinate with CATS on the long-range transportation plan for the region.

- **Operating funding:** Operating funds for the public transportation system are generated through a combination of sources. Each service board (e.g., Pace, Metra) collects fares from its customers, but the operating agencies only recover a portion of the cost of operating service through the fare box. The RTA balances the operating deficit of each agency by collecting state and local tax revenues – the primary source being a special sales tax levied in northeastern Illinois – and distributing them according to legislatively derived formulas or discretionary allocations. As of April 1, 2008, in Chicago and suburban Cook County, the RTA collects the equivalent of a 1.25 percent sales tax on most items; in Will County and the other “collar counties” in the region, the sales tax is 0.75 percent. Recently, RTA’s revenue sources have not been adequate to cover operating expenses, resulting in the need to transfer capital funds to operations, thus adversely affecting the ability to invest in capital renewal projects. In 2006, the transfer of funds from capital to operating budgets totaled almost \$103 million. (See RTA’s *Moving Beyond Congestion*, February 2007.)

Travel data shows that Will County residents are underserved by the existing public transportation system, and the Will County 2030 Transportation Plan suggests numerous rail-line extensions and increased bus services to accommodate this existing and future demand. At the same time, because the cost of each trip on the system is only partially covered by the paying customer, an expanded system in Will County will also necessitate an increase in other sources of operating funds.

- **Capital funding:** The capital program funds a variety of purposes, including rolling stock, track, signals, support facilities, stations, land acquisitions, and capital studies. The primary source of capital funding for Metra and Pace is federal funding and grants, which must be matched by state, local, or agency contributions equivalent to at least 20 percent of the overall cost of each project. Capital programs are developed by the service boards and incorporated into the RTA’s annual budget process.

Additionally, federal funds for major capital projects are available on a competitive basis for projects meeting stringent federal criteria. In part, this is because major public transportation projects, such as the extension of a rail line or the creation of a new service, involve a significant investment that can only be leveraged through federal funding support. The Federal Transit Administration’s highly competitive *New Starts* program is the primary vehicle for funding such projects, and Metra will not commit to any system extensions or new lines that are not funded under this program. To qualify, each project must be justified based on criteria such as mobility improvements,

environmental benefits, operating efficiencies, and cost-effectiveness. *New Starts* projects must also meet the 80/20 federal requirements for local financial support, but the ability of a region to increase its proportion of the project financing (up to 50 percent) improves the competitiveness of a project. For example, the recently completed January 2006, \$198 million extension of the SouthWest Service Line to Manhattan qualified for \$103 million in *New Starts* funding.¹

The RTA's 2007–2011 Capital Program, developed as part of *Moving Beyond Congestion*, projects a \$16.1 billion five-year capital investment requirement for Pace, Metra and CTA to maintain, improve and expand the existing system. Over \$10 billion of this amount would be dedicated to maintaining the system. The total program would more than triple the level of investment that was possible with the five-year *Illinois FIRST* initiative, a state bond program that was used to help match and secure federal grants for numerous projects, including the SouthWest Service Line extension. Over \$8 billion of this program is for Metra improvements, while Pace's portion is about \$718 million. However, realization of this program requires additional funding resources.

Illinois FIRST ended in 2005, resulting in diminished funding for the coming years. Indeed, if more money does not become available, the annual capital investment which averaged \$944 million a year between 2002 and 2006, will drop to \$606 million annually in the 2007 to 2011 period. Compounding the difficulties are the fact that the State is not providing matching funds through its bonding programs, and the unfortunate reality that construction cost increases are exceeding the inflation rate.

Implementing and identifying funding for most of the public transportation elements of the Will County 2030 Transportation Plan will be the direct responsibility of the RTA, Metra, and Pace. Both Metra and Pace are planning an aggressive expansion of service in the county, and it is anticipated that a combination of federal, state, and regional resources will be needed to supply funding for these projects. Indeed, Metra has already programmed \$38 million for preliminary engineering on two potential *New Starts* projects affecting Will County – the first phase of the STAR Line and the creation of the Southeast Service. The extent of public transportation system expansion in Will County over the next 25 years will largely depend on the financial resources obtained to build and operate this system expansion.

Nevertheless, the county has an opportunity to partner with the regional public transportation agencies on securing funding for and implementing the major capital projects listed in the 2030 Plan. The County, in partnering with local municipalities, may also have a more direct role to play by actively creating transit-related infrastructure in its communities (such as stations, shelters, and commuter parking). Such infrastructure, which can often be combined with roadway or other capital projects, supports the regional investment in public transportation and makes the public transportation system more convenient for Will County residents. Other suburban counties in the region, such as DuPage County, have been proactive in coordinating transportation improvements and taking advantage of available state and federal grant programs for these purposes.

¹ FTA Annual Report on New Starts, 2006

8.3 WCDH Transportation Needs and Ongoing Projects

WCDH expenditures can be categorized in the following categories: maintenance, operations and administration, and capital for capacity improvement projects.

- **Facility Maintenance**—The County is responsible for about 270 miles of roadways. The annual cost of resurfacing and general road maintenance is \$5.5 million. Maintenance of the facilities includes resurfacing, restriping, deicing materials, and bridge repairs.
- **Operation and Administration**—The County has a budget of \$6.7 million annually for operations, fuel, equipment, personnel, and other support costs.
- **Capacity Improvements Projects**—The County is responsible for the expansion of its system to support the growing travel demand. Capacity improvement projects include the widening of existing facilities, development of new facilities, and improvements on control and channelization at intersections. Over the past 6 years, the county has expanded the roadway system by approximately 15.1 lane-miles of new roadway.

The current WCDH program also includes various intersection improvements.

The annual needs for facility maintenance and operations and administration were expanded to a 25-year cumulative total. For those needs that change with time, an annual expansion factor was developed to grow or reduce the needed amount based on historical trends. Some of the needs are anticipated to remain constant over the 25-year study period. Capital improvement needs are described in more detail in the following section.

In the spring and fall of 2008, the Will County Board authorized a bonding program for projects ranging from intersections and interchanges to bridge replacements. These projects, known as Build Will, and their estimated costs are listed in Tables 8-1 and 8-2. Costs include construction, engineering, and right-of-way. These projects are to be funded primarily with revenues generated by the RTA sales tax.

TABLE 8-1
Roadway Construction Projects—Build Will Program

Roadway	Location	Estimated Cost (\$ Millions)
Veteran's Parkway	Crossroads Parkway to Route 53	14.78
Caton Farm Road	Drauden Road to County Line Road	8.43
143rd Street	Bell Rd. to Will/Cook Road	7.72
Bell Road	at 143rd Street	11.50
Cedar Road	at Division Street	1.82
Plainfield-Naperville Road	119th Street	4.43
Laraway Road	at Cherry Hill Road	1.97
Manhattan-Monee Road	at 88th Avenue	1.94
Goodenow Road	at Kedzie Avenue	2.42
Weber Road	at I-55 (preliminary engineering)	6.00

TABLE 8-1
Roadway Construction Projects—Build Will Program

Roadway	Location	Estimated Cost (\$ Millions)
Gougar Road	at US 30	1.75
Laraway Road	at Wolf Road	0.31
143rd Street	at State Street	2.56
143rd Street	I-355 to State Street	4.14
Weber Road	at Renwick Road	4.47
Cedar Road	over Spring Creek	0.53
Goodenow Rd.	over Plum Creek	0.38
Cedar Road	over Jackson Creek	0.50
Plainfield-Naperville Road	95th St. to 111th St.	0.67
95th Street Ext.	Plainfield-Naperville Rd. to Boughton Road	11.92
Arsenal Road	Baseline Rd. to Brandon Road	2.30
Bell Road	at 143rd Street	0.66
Deslem Road	Rt. 102 to KKK County Line	8.16
Bell Road	151st St. to 159th Street	8.99
Bell Road	151st St. to 143rd Street	8.06
Bell Road.	143rd St. to 131st Street	7.62
Indiana Ave.	over Trim Creek	0.23
135th Street	Rt. 171 to Smith Road	26.58
135th Street	Smith Rd. to New Avenue	17.10
143rd Street	State St. to Bell Road (preliminary engineering)	0.78
Brandon Road	over Des Plaines River	2.36
Exchange Street	Crete Rd. to Cottage Grove Avenue	9.71
Black Road	over DuPage River	0.54
Cedar Road	at Laraway Road	4.38
Gougar Road	at Haven Avenue	0.70
Renwick Road	over DuPage River (road district match)	0.97
	Total	187.38

Various intersection improvements that address safety and capacity are identified in Table 8-2. Costs include engineering, construction, and right-of-way.

TABLE 8-2
Intersection Improvements

Roadway	Location	Estimated Cost (\$ Millions)
Parker Road	at Chicago-Bloom Tr.	2.16
S. Cedar Road	at Spencer Road	2.16
Manhattan-Monee Road	at Harlem Avenue	2.16
Manhattan-Monee Road	at Center Road	2.16
Old Chicago Road	at Wilmington-Peotone Road	1.96
Will Center Road	at Goodenow Road	1.96
Will Center Road	at Peotone-Beecher Road	1.96
Center Road	at Steger Road	3.10
Center Road	at N. Peotone Road	2.16
Wilmington-Peotone Road	at Wilton-Center Road	1.96
Exchange Street	at Old Monee Road	2.16
Mills Road	at S. Briggs Street	2.16
Gougar Road	at Francis Street	1.19
Western Ave.	at Crete-Monee Road	1.19
N. Briggs Street	at Oak Avenue	2.16
N. Briggs Street	at Division Street	1.28
Francis Road	at Townline Road	1.33
Francis Road	at Schoolhouse Road	1.20
Laraway Road	at Spencer Road	2.16
Laraway Road	at Center Road	2.17
Laraway Road	at 80 th Avenue	0.71
Laraway Road	at 116 th Street	0.71
Division Street	at Gougar Road	2.16
Total		42.32

In summary, the current WCDH program includes \$187.38 million in capacity improvements through the year 2020 (without bonding). In addition, Will County has identified \$42.3 million in intersection improvements that would be constructed.

8.4 Capital Improvement Needs—Cost Estimate

Unit cost estimates were developed or referenced from other studies for roadways and transit improvements. For roadways, the unit cost estimates were developed from a combination of two sources: construction and right-of-way cost estimations using the SRA cost methodology for both arterial and collector roads or with a freeway methodology for interstate/freeways. Note that since the projects being considered in Will County are pre-Phase 1 types of improvement, the cost estimating methodology need not be as detailed as for preliminary engineering. Total project cost was calculated by summing the unit costs for each project. Costs are stated in 2005 dollars.

8.4.1 Arterial Construction Cost Methodology

The following cost methodology was used for the proposed arterial improvements. The construction cost methodology utilizes the following items: roadway reconstruction, new structures, structure widening, intersections, interchanges, engineering, and contingencies.

8.4.1.1 Roadway

The roadway cost item is measured in miles. It is meant to include the costs of upgrading the existing roadway to the proposed cross section, and constructing segments on new alignment. The roadway costs include reconstruction of the existing roadway due to the limited service life of the existing pavement, as well as the costs for earthwork, drainage, landscaping, etc. As a general guideline for widening projects, a unit cost of \$1.3 million per lane mile for reconstruction was assumed and confirmed by County staff.

The length of roadway to be measured is the centerline length, including through intersections and interchanges, but excluding segments on long bridges (longer than 500 feet).

New construction had a cost estimate of \$2.6 million per mile for a two-lane cross section and a \$5.4 million per mile for a four-lane cross section (based on 2004 estimates).

8.4.1.2 Structures

Cost of each new or widened structure was estimated separately, except when part of an interchange. Estimated costs for interchanges will include all associated structures.

There may be situations where it appears that an existing structure can remain in use, perhaps with some widening. An example is the situation where one of the roadways can use an existing structure, while a new structure is constructed for the other roadway. However, due to the limited service life of structures, it was assumed that some of these structures would be replaced and the smaller, more inexpensive structures would nearly always be replaced.

New Structures – **Table 8-3** shows the estimated costs of new structures in millions of dollars, based on the number of lanes on the structure and the number of lanes spanned by the structure. If a median is carried by the structure, its width was converted to an equivalent number of lanes. Similarly, medians that are spanned were included. Shoulder and sidewalk widths were not added, however, since they are already assumed to be included in the structure costs.

Railroads that are spanned can be treated as having two equivalent lanes per rail line. The widths of medium-sized rivers were also converted to equivalent numbers of lanes for cost estimation purposes.

Table 8-3 also supplies costs for short structures used for spanning minor watercourses. For new structures longer than 200 to 250 feet, the estimated construction cost should be based on the bridge deck area, in square feet.

TABLE 8-3
Cost Estimate for New Roadway Construction/Reconstruction

Equivalent Number of Lanes Under	Cost (\$ Millions) Equivalent Number of Lanes Over		
	2–3 Lanes	4–5 Lanes	6–7 Lanes
2 to 5	1.2	2.4	3.6
6 to 7	2.4	3.6	4.8
Structures Over Minor Waterways	1.2	1.2	1.8

Note: Structures that are part of interchanges are not costed separately. Equivalent lanes refer to travel lanes and medians only (see text). For longer bridges (over 200 feet), use \$75 per square foot of assumed deck.

Widened Structures – The cost for widening existing structures is \$180 per square feet of deck area being added to the bridge. The widths of any medians, shoulders, and sidewalks should be included when determining the area of widening.

8.4.1.3 Intersections

Some at-grade intersections are to have additional costs attributed to them that are over and above the per-mile roadway costs previously described. The intersection costs are meant to allow for the costs of signalization and additional turn lanes and/or through lanes.

Four types of intersections will have additional costs attributed to them as follows:

- Intersections with another arterial
- Existing unsignalized intersections at which signalization is probable
- Intersection where additional turn lanes will be needed
- Newly proposed intersections at which signalization is probable, including turning roadway/cross street intersections

A full upgrade for an intersection includes upgrading the control at the intersection and adding all possible turn lanes. A partial upgrade is for intersections with some existing turn lanes. The cost is broken down further by four leg and three leg intersections. The intersection cost does not include reconstructing the through lanes and center of the intersection; this cost is included in the segment costs described above. No costs should be added for interchange ramp intersections, however, since those costs are included in the interchange cost estimate.

Costs of intersection improvements that are not listed above are not provided because they are determined not to be attributing to the highway improvement project, but rather to other improvements.

Table 8-4 lists the additional construction costs to be attributed to some at-grade intersections based on intersection type.

Grade-separated intersections have no applicable additional costs. This is because the costs for the structure, the turning roadway(s), and the cost for any signalization at the turning roadway intersection(s) should be treated as discussed previously.

TABLE 8-4
Cost Estimate for Intersections

Intersection Type	Additional Cost (\$ each)
4-leg full upgrade	1,200,000
4-leg partial upgrade	730,000
3-leg full upgrade	670,000
3-leg partial upgrade	400,000

8.4.1.4 Interchanges

Cost of new or modified interchanges should be estimated based on interchange type. These costs are in addition to the per-mile costs of the roadway through the interchange area, discussed previously.

The interchange costs include all associated structures, retaining walls, and any signalization of ramp intersections. Table 8-5 shows estimated interchange costs by interchange type. A partial interchange improvement is estimated at half the cost.

TABLE 8-5
Cost Estimate for Interchanges

Interchange Type	Cost (\$ each)
Single Point Diamond	22,000,000
Typical Diamond or Parclo	15,000,000
Partial Interchange	½ of above

8.4.2 Freeway Construction Cost Methodology

The freeway cost methodology was used for the proposed improvements on the Interstate and tollway systems. The construction cost methodology utilizes the following items: pavement removal, new pavement, earthwork, drainage, erosion control, traffic control, lighting, signing/markings, typical utilities, structure widening, incidentals, engineering, and contingencies.

8.4.2.1 Pavement

The pavement cost is measured in square yards and includes pavement removal and new pavements for mainline and ramps. The unit price is \$7.00 per square yard for pavement removal and \$62.00 per square yard for new pavement. The improvements on the freeways assume widening and not full reconstruction of all lanes.

TABLE 8-6
Percent of Pavement Cost for Additional Freeway Items

Type	Percent
Earthwork	10
Drainage	8
Erosion Control	2
Traffic Control	10
Lighting	2
Signing/Markings	3
Typical Utilities	5
Incidentals	20

8.4.2.2 Additional Roadway Cost

Additional costs are identified for freeway projects. These costs are based on a percentage of the pavement cost. Table 8-6 shows the percentages for each category.

8.4.2.3 Structures

For the purposes of this cost estimate, it was assumed that the bridges would be widened. The cost for widening the bridge is the same as the roadway cost estimate methodology of \$180 per square foot.

8.4.3 Right-of-Way Costs

A general cost per square foot was assumed for right-of-way acquisition. The right-of-way cost was set at a value of \$2.30 per square foot in developed areas of the county and \$0.80 per square foot for undeveloped areas of the county (based on 2004 estimates). Right-of-way guidelines have been set to ensure that a minimum right-of-way is provided for each type of facility. The minimum right-of-way is shown in [Table 4-1](#).

8.4.4 New Collector Cost Methodology

Cost for new collector roads was estimated assuming a two-lane road is constructed to serve primarily local access. The resulting cost per lane mile of 2.3 million includes construction of the through lanes, structures, intersections, engineering, right-of-way, and contingency.

8.4.5 Engineering and Contingencies

For the roadway and freeway cost, a percentage of the total cost is added for engineering and contingencies. The engineering cost is 20 percent of the total construction cost. The contingency cost is 20 percent of the construction, engineering, and right-of-way cost combined.

8.4.6 Public Transportation Cost

The methodology for estimating capital costs for major public transportation projects in the plan is based upon the range of costs seen in comparative projects, both around the Chicago region and nationally. The following assumptions apply to the commuter rail plan cost estimates:

- Estimated costs are rough order-of-magnitude estimates based on the projected costs of comparable commuter rail expansion projects in the region, which average \$15 to \$25 million per mile in project costs. Sample projects include the ongoing SWS and UP-W extensions, as well as existing cost estimates for the STAR and SES lines.
- Costs include an allowance for rolling stock and contingencies.
- In the case where projects extend outside of the county, the estimates reflect the pro-rated Will County portion of the overall project costs (e.g., for the STAR Line, only the proportion of the project in Will County is included).
- Funding for these projects would likely consist of primarily federal and state funds with some local match required.

The following assumptions apply to the bus concept plan cost estimates:

- BRT capital costs are based on estimates for recent and ongoing projects, including projects in Washington D.C. and Kansas City, which average \$2.5M - \$5M per mile in project costs.
- Capital cost estimates are only for the portions of each project that occur within Will County

- Funding for these projects would likely consist of primarily federal and state funds with some local match required. Local initiative and financial contribution would be most important for transit center infrastructure to accommodate bus services.

8.4.7 Non-motorized Plan Costs

The nonmotorized (bicycle/pedestrian) cost estimate pertains to the list of recommended improvements to major trails in the county. Currently, the Forest Preserve District of Will County estimates the costs of building a dedicated limestone or blacktop bicycle trail to be in the range of \$150,000 to \$200,000 per mile. This range of costs will be used to factor a range for each of the recommended projects.

8.5 Comparison of Revenues and Needs for WCDH

The total cumulative projected revenue is anticipated to be \$1.10 billion. The total cumulative projected need is anticipated to be \$2.27 billion including operations, maintenance, and project cost. Given the need to meet the operations and maintenance needs of the WCDH, the remaining revenue available was compared to the total project needs for Will County. With the existing revenue sources available to the WCDH, \$420 million will be available for the \$1.52 billion project needs. This would result in a project need deficit of \$1.17 billion. The ability to fund the operation and maintenance of existing facilities and provide for funding of capital improvements in the future will be a major challenge. The transportation plan takes into consideration the projected needs and limited resources to develop an implementable plan that meets goals and objectives set forth by the planning process.

Table 8-7 on the next page illustrates the total revenue and need projections with the existing funding sources. Annual revenue and needs is based on 2008 WCDH budgets. An expansion factor describes how the projected revenue or need is anticipated to change with time. For values of 25, no change in annual amounts is anticipated. The expansion factor was based on 6 years of historic budgets for the WCDH. The tax levies are not anticipated to increase in percentage, but as historic data has shown, the value of property increases with time resulting in an increase in the total dollar valued generated by the property tax. A 25-year cumulative dollar value was calculated from the annual budget values and the anticipated expansion factor. The additional sales tax revenue approved by the General Assembly in 2008 is shown without an expansion factor. This funding has been committed to the Build Will program, so revenue from this source is only included through the year 2020, the last year that Build Will projects are programmed.

The type of necessary expenditures by the WCDH is separated into two categories, capital improvements and operational/maintenance needs. Capital improvements include roadway expansion projects through the development of new roadways or widening of roadways increasing the capacity of the roadways system. The operational and maintenance needs include the cost of operating the department of highways and maintenance of the roadway system such as resurfacing, restriping, and snow removal. The revenue remaining after accounting for all of the operational/maintenance needs and committed roadway cost is the dollar value remaining for further capital improvements to the roadway system.

TABLE 8-7

Will County—Projected Revenue and Needs through Year 2030

Projected Revenue	Annual Revenue	Expansion Factor*	25-Year Cumulative	% of Revenue for Capacity Projects	Capital Improvement Revenue	Operations & Maintenance Revenue
County Highway Levy	\$6,220,814	5.0%	\$296,901,422		\$0	\$296,901,422
County Bridge Levy	\$23,000	0.0%	\$575,000		\$0	\$575,000
County Highway Matching Levy	\$23,000	0.0%	\$575,000	83%	\$477,250	\$97,750
Motor Fuel Tax—State	\$6,723,462	1.0%	\$189,892,091	73%	\$138,874,340	\$51,017,751
RTA Revenue Tax **	\$19,000,000	0.0%	\$229,680,000	100%	\$229,680,000	\$0
Surface Transportation Program—Local (Will Co. Gov. League)	\$1,000,000	0.0%	25 \$25,000,000	100%	\$25,000,000	\$0
Surface Transportation Program—Rural	\$805,604	0.0%	25 \$20,140,108	100%	\$20,140,108	\$0
Fees (Permits, etc.)	\$303,151	25.0%	\$319,761,319		\$0	\$319,761,319
Interest	\$470,211	0.0%	25 \$11,755,285	50%	\$5,877,643	\$5,877,643
Charges for Services	\$207,143	0.0%	25 \$5,178,570		\$0	\$5,178,570
Total Projected Revenue			\$1,099,458,795		\$420,049,341	\$679,409,455
Projected Needs	Annual Need	Expansion Factor	25-Year Cumulative		Capital Improvement Needs	Operations & Maintenance Needs
Building & Grounds	\$280,000	0.0%	25 \$7,000,000			\$7,000,000
Equipment	\$566,468	0.0%	25 \$14,161,695			\$14,161,695
General Maintenance, Salaries	\$5,863,274	10.0%	\$576,635,786			\$576,635,786
Maintenance—Highway (Resurfacing/Striping/Other)	\$3,585,767	0.0%	25 \$89,644,175			\$89,644,175
Maintenance—Deicing Materials	\$418,470	6.0%	\$22,959,146			\$22,959,146
Maintenance—Bridge	\$1,545,237	0.0%	25 \$38,630,925			\$38,630,925
Committed Projects	–	–	– \$249,786,300		\$249,786,300	–
Additional Intersection Improvements	–	–	– \$42,320,000		\$42,320,000	–
Noncommitted Capital Improvement Projects	–	–	– \$1,228,100,000		\$1,228,100,000	–
Total Projected Needs			\$2,269,238,027		\$1,520,206,300	\$749,031,727
Surplus (Deficit)					(\$1,169,779,232)	\$0
Available for Noncommitted Capital Improvement Projects					\$58,320,786	–

* Expansion factors based on Will County historic revenue and needs between 2000 and 2005. Percentage factors represent percent increase per year, 25 represent constant value over time.

** The RTA Revenue Tax funds are committed to the Build Will program, projects for which are scheduled through 2020. The 25-Year Cumulative value listed above reflects the current program cost.