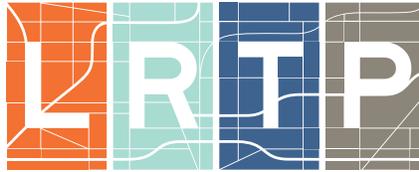


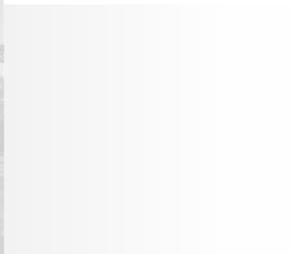
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OF TRANSPORTATION



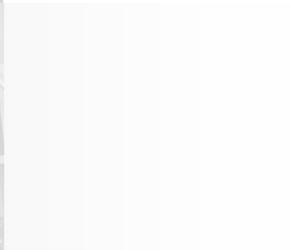
LONG RANGE
TRANSPORTATION PLAN



APPENDICES



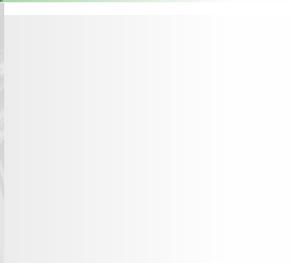
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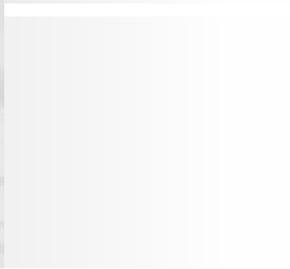
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C. Funding + Financing Opportunities

L RTP Chapter 7.0, Transportation Funding and Financing, describes recommended strategies for IDOT to increase funding levels and pursue financing to provide transportation infrastructure for Illinois. This appendix offers additional detail on federal funding and financing programs, as well as innovative revenue-generating techniques used by other states.

C.1 FEDERAL PROGRAMS

Congress authorizes the federal government to spend its transportation revenue on programs that support public policy interests for a given amount of time. Authorizing legislation sets the maximum amount of funding that can be appropriated to programs each fiscal year. The current authorization, Public Law 114-94, the Fixing America's Surface Transportation (FAST) Act, is five-year legislation intended to improve the Nation's surface transportation infrastructure, including our roads, bridges, transit systems, and rail transportation network. Each year, Congress reviews appropriation bills to allocate funding for all federal agencies, departments, and programs. This action provides the legal authority for federal agencies to spend money during the upcoming fiscal year on administered programs. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) are the main providers of federal transportation funding. These Administrations allocate funding to states based on statutory formulas and to local and state public agencies through competitive discretionary grant programs.

Beyond fiscal year (FY) 2020, the size of the federal program is yet to be determined, given the change in leadership in Washington, DC. Should ideological gridlock, dwindling fuel tax receipts, and a lack of consensus on the goals of a federal program continue to remain the status quo, formula, and grant funds are likely to remain low relative to demand for such grant funding. At the same time, Congress has expanded low-cost, flexible federal loans for highway and transit projects tenfold. Low-cost federal loans and other financing options may help supplement traditional grant support.

Some key federal funding and financing programs are described below. This is not a comprehensive list of all federal funding and financing programs, but a sample.

C1.1 FORMULA FUNDING PROGRAMS

FEDERAL HIGHWAY ADMINISTRATION

Surface Transportation Block Grant (STBG) Program

The FAST Act converts the long-standing Surface Transportation Program (STP) into the Surface Transportation Block Grant Program (STBG), though it remains a formula funding program. The program retains STP flexibilities, promoting flexibility in state and local transportation decisions and providing flexible funding to best address state and local transportation needs. STBG program funds are apportioned to states in the form of contract authority, subject to the overall federal-aid obligation limitation. Each state's STBG apportionment is calculated based on a percentage specified in law. Certain set-asides are required by law from a state's STBG apportionment, including funding for Transportation Alternatives, two percent for State Planning and Research, and funding for bridges not on federal-aid highways (off-system bridges). The Transportation Alternatives (TA) set-aside of the STBG program provides funding for projects and activities that promote alternative

transportation methods such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to storm-water and habitat connectivity. In Illinois, this funding is used to support the Illinois Transportation Enhancement Program (ITEP), which provides funding for community based projects that expand travel choices and enhance the transportation experience by improving the cultural, historic, aesthetic and environmental aspects of our transportation infrastructure.

Congestion Mitigation and Air Quality (CMAQ) Improvement Program

The FAST Act continued the Congestion Mitigation and Air Quality (CMAQ) program to provide a flexible funding source to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Formula funding is apportioned to states for projects that contribute to the attainment or maintenance of a national ambient air quality standard, with a high level of effectiveness in reducing air pollution. In addition, vehicle-to-infrastructure communications equipment and electric vehicle and natural gas vehicle infrastructure are eligible projects under the CMAQ program. In Illinois, the St. Louis and Chicago regions have access to CMAQ funding.

National Highway Freight Program (NHFP)

The FAST Act established the National Highway Freight Program (NHFP), which provides \$6.3 billion in formula funds over five years for states to invest in freight projects on the National Highway Freight Network. Up to 10 percent of these funds may be used for intermodal projects. Beginning on December 4, 2017, a state may not obligate NHFP funds unless it has a federally approved a freight plan.

Highway Safety Improvement Program (HSIP)

The FAST Act continues the Highway Safety Improvement Program (HSIP), which is intended to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads and roads on tribal lands. FHWA apportions this formula funding as a lump sum for each state, which then divides that total among apportioned programs. HSIP funds are to be used for safety projects that are consistent with the state's strategic highway safety plan (SHSP) and that correct or improve a hazardous road location or feature or address a highway safety problem. Eligible projects include installation of vehicle-to-infrastructure communication equipment, pedestrian hybrid beacons, and roadway improvements that provide separation between pedestrians and motor vehicles, including medians and pedestrian crossing islands.

National Highway Performance Program (NHPP)

The National Highway Performance Program (NHPP) provides formula funding to states to use for construction on national highways (including the interstate system and other principal arterials), and for efforts to maintain and repair highways to meet performance targets set in states' asset management plans. Eligible project types include construction and rehabilitation/restoration of highways and bridges, and ferry boats and facilities; bridge and tunnel inspection; and those related to safety, intelligent transportation systems (ITS), bicycle and pedestrian infrastructure. Under some circumstances, transit capital projects and non-federal aid highway improvements are also permitted through the NHPP program.

FEDERAL TRANSIT ADMINISTRATION

State of Good Repair Grants

This formula program (Section 5337) replaces the fixed guideway modernization program (Section 5309). Funding is limited to fixed guideway systems (including rail, bus rapid transit, and passenger ferries) and high intensity bus (buses operating in high occupancy vehicle (HOV) lanes). Projects are limited to replacement and rehabilitation (rolling stock, track, line equipment and structures, signals and communications, power equipment and substations, passenger stations and terminals, security equipment and systems, maintenance facilities and equipment, operational support equipment), or capital projects required to maintain public transportation systems in a state of good repair, as well as development and implementation of transit asset management plans.

Grants for Buses and Bus Facilities Formula Program

The Grants for Buses and Bus Facilities program (Section 5339) makes federal resources available to states and direct recipients to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities including technological changes or innovations to modify low- or no-emission vehicles or facilities. Funding is provided through formula allocations (part a), with competitive grants also available (parts b and c, described below under discretionary grant programs). The purpose of the Buses and Bus Facilities Program is to assist in the financing of buses and bus facilities capital projects, including replacing, rehabilitating, purchasing or leasing buses or related equipment, and rehabilitating, purchasing, constructing, or leasing bus-related facilities.

Urbanized Area Formula Funds

FTA Section 5307 Urbanized Area Formula funds are allocated to urban areas according to a formula. These funds offer capital assistance to transit providers in urbanized areas; urbanized areas of less than 200,000 inhabitants may also use the funding to support operations.

C1.2 DISCRETIONARY GRANT PROGRAMS

U.S. DEPARTMENT OF TRANSPORTATION (USDOT)

Transportation Investment Generating Economic Recovery (TIGER)

Congress has appropriated \$500 million in FY 2017 discretionary grant funding for transportation projects across the country in the ninth round of the highly competitive Transportation Investment Generating Economic Recovery (TIGER) grant program. Over eight rounds since 2009, the TIGER grant program has provided a combined \$5.1 billion to 421 projects in all 50 states, the District of Columbia, Puerto Rico, Guam, the Virgin Islands, and tribal communities. These federal funds leverage money from private sector partners, states, local governments, metropolitan planning organizations, and transit agencies. The 2016 TIGER round alone leveraged nearly \$500 million in federal investment to support \$1.74 billion in overall transportation investments.

The purpose of the TIGER grant program is to support innovative projects, including multi-modal and multi-jurisdictional projects, which are difficult to fund through traditional federal programs. Awards under the prior Administration focused on capital projects that generate economic development and improve access to reliable, safe and affordable transportation for communities, both urban and rural. TIGER grant funds have historically been awarded for construction activities, but some rounds have included funds for planning and preliminary engineering.

USDOT recently released its Notice of Funding Opportunity (NOFO) for FY 2017 TIGER funding. Applications were due October 16, 2017. Illinois was successful in receiving funding during this call for projects. Illinois received \$7.6 million in federal funds for safety improvements and capacity enhancements on I-57 in southern

Illinois in Williamson and Franklin Counties. The total project cost is \$13.3 million. The TIGER benefit/cost analysis indicated that the project benefits were over 18 times greater than the cost of implementing the project. The TIGER 9 funding will be available to be obligated to awarded projects until September 30th, 2020.

Demand for the TIGER grant program has historically far exceeded available funds. During the previous eight rounds, the Department received more than 7,500 applications requesting more than \$152 billion for transportation projects across the country. In addition, because the TIGER program was not authorized under the FAST Act, further rounds cannot be administered without specific Congressional appropriations for the program. As such, the program's survival may depend on Congress appropriating TIGER funds.

Infrastructure for Rebuilding America (INFRA)

The United States Department of Transportation's (USDOT) Nationally Significant Freight and Highway Projects program, named Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE) during the Obama administration and now termed the Infrastructure for Rebuilding America (INFRA) competitive grant program, could be pursued as a potential source of federal funds for projects. The program is authorized at \$4.5 billion from Fiscal Year (FY) 2016 through FY 2020. USDOT awarded \$759 million to 18 projects in the initial FY 2016 round.

Up to \$1.5 billion in FY 2017 and FY 2018 INFRA funds are available for projects and programs that leverage federal funds with private and toll revenues, improve safety, and hold the greatest promise to eliminate freight bottlenecks and improve critical freight movements. Applications are due in early November 2017. Unlike the FTA Section 5339, FHWA CMAQ, and USDOT TIGER programs, INFRA grants are somewhat larger, ranging from \$5 million to \$165 million in the FY 2016 round.

FEDERAL HIGHWAY ADMINISTRATION (FHWA)

Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Program

The FAST Act established the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grant program to make competitive grants for the development of model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment. Administered by the FHWA and authorized at \$60 million each fiscal year from FY 2016 to FY 2020, the ATCMTD program provides competitive discretionary grants to highway projects that deploy advanced transportation and congestion management technologies, including advanced traveler information systems, advanced transportation management technologies, infrastructure maintenance, monitoring, and condition assessment, advanced public transportation systems, transportation system performance data collection, analysis, and dissemination systems, advanced safety systems, including vehicle-to-vehicle and vehicle-to-infrastructure communications, technologies associated with autonomous vehicles, and other collision avoidance technologies, including systems using cellular technology, integration of intelligent transportation systems with the Smart Grid and other energy distribution and charging systems, electronic pricing and payment systems, and advanced mobility and access technologies, such as dynamic ridesharing and information systems to support human services for elderly and disabled individuals.

ATCMTD grant funds are available for both pre-construction and construction activities, though grant recipients are only allowed to use up to 5 percent of the funds awarded each fiscal year to carry out planning and reporting requirements. Demand for the ATCMTD program exceeds available funds. For each fiscal year from 2016

through 2020, a maximum of \$60 million, less up to \$2 million for DOT administrative expenses, will be available to make 5 to 10 awards not exceeding \$12 million each depending on the number of awards and the amount reserved for DOT administrative expenses. In addition, the federal share for the program is 50 percent, requiring grantees to fund the other half of such projects from non-federal sources.

Surface Transportation System Funding Alternatives (STSFA) Program

The FAST Act established the Surface Transportation System Funding Alternatives Program (STSFA), a competitive discretionary grant program for states to demonstrate user-based alternative revenue mechanisms that utilize a user fee structure to maintain the long-term solvency of the Highway Trust Fund. The objectives of the program are to test the design, acceptance, and implementation of two or more future user-based alternative mechanisms, improve the functionality of the user-based alternative revenue mechanisms, conduct outreach to increase public awareness regarding the need for alternative funding sources for surface transportation programs, and to provide information on possible approaches, provide recommendations regarding adoption and implementation of user-based alternative revenue mechanisms, and minimize the administrative cost of any potential user-based alternative revenue mechanisms.

In the FY 2016 STSFA round, eight state Departments of Transportation received \$14.2 million in grant funds. The program requires a pilot initiative and the federal share for the program is 50 percent, requiring grantees to fund the other half of such projects from non-federal sources.

FEDERAL TRANSIT ADMINISTRATION (FTA)

Capital Investment Grants (CIG) (New Starts, Small Starts, Core Capacity)

The Capital Investment Grants (CIG) program (Section 5309) is the FTA's primary grant program for funding heavy rail, commuter rail, light rail, streetcars, and bus rapid transit. CIG funding supports major transit projects in four distinct categories. New Starts are fixed guideway projects costing above \$300 million or seeking more than \$100 million in CIG funding, while Small Starts are fixed guideway or bus rapid transit (BRT) projects with a total cost under \$300 and seeking less than \$100 in CIG funding. Core Capacity projects must increase capacity on existing fixed guideway systems by at least 10 percent in corridors at (or soon to be at) capacity. Finally, Programs of Interrelated Projects may combine these project types, so long as the projects in the programs relate to one another and begin construction within a similar timeframe.

Projects seeking CIG funding are required to complete a series of steps over several years to be eligible for funding. For New Starts and Core Capacity projects, the law requires completion of Project Development and Engineering in advance of receipt of a construction grant agreement. For Small Starts projects, the law requires completion of Project Development in advance of receipt of a construction grant agreement. The law also requires projects to be rated by FTA at various points in the process according to statutory criteria evaluating project justification and local funding commitment.

CIG funds have historically been awarded for construction activities, following the completion of a Full Funding Grant Agreement (FFGA). The Expedited Project Delivery for Capital Investment Grants Pilot program has also been authorized to allow up to eight projects over the life of the program to be selected for expedited grant awards. Projects must be supported through a public-private partnership and demonstrate local financial commitment, technical capacity, and a certification that the existing transit system is in a state of good repair (SOGR). Certification that a transit system is in a SOGR would entail FTA certification of its Transit Asset

Management Plan, though there's been no rulemaking for the Expedited Project Delivery for CIG Pilot program. An exception is provided to the state of good repair requirement if the proposed project is a core capacity project that will allow the project sponsor to make substantial progress toward achieving a state of good repair.

Bus and Bus Facilities Discretionary Program and Low-No Emission Vehicle Program

A sub-part of Section 5339, which also supports a formula grant program for buses (described above, under formula funding programs), the Bus and Bus Facilities Discretionary Program (Section 5339(b)) funds projects that improve the condition of the country's bus fleets. In FY 2017, \$226.5 million was made available with no more than 10 percent of funds to be awarded to a single grantee. These funds can be used for a maximum of 80 percent of the cost of selected projects, which generally include capital projects to replace, rehabilitate, purchase, or lease buses, vans, and related equipment, and to rehabilitate, purchase, construct, or lease bus-related facilities, including stations, bus shelters, and maintenance facilities. During this round, FTA may prioritize projects that demonstrate how they will address significant repair and maintenance needs, improve the safety of transit systems, and deploy connective projects that include advanced technologies to connect bus systems with other networks.

Another sub-program, the Low- or No-Emission Vehicle Program (Section 5339(c)), provides competitive grants for bus and bus facility projects that support low- and zero-emission vehicles. In FY 2016, the FTA awarded \$55 million to 20 recipients under the competitive grant program. The federal share of eligible capital costs is 80 percent of the net capital project cost, unless the grant recipient requests a lower percentage.

Transit Oriented Development (TOD) Pilot Planning

The Pilot Program for Transit Oriented Development (TOD) Planning provides funding to local communities to integrate land use and transportation planning with a transit capital investment that is seeking or recently received funding through the Capital Investment Grant (CIG) program. Comprehensive planning funded through the program must examine ways to improve economic development and ridership, foster multimodal connectivity and accessibility, improve transit access for pedestrian and bicycle traffic, engage the private sector, identify infrastructure needs, and enable mixed-use development near transit stations. In FY 2016, FTA awarded \$14.7 million to 15 recipients.

Commuter Rail Positive Train Control (PTC) Grants

Authorized by the FAST Act, the Commuter Rail Positive Train Control Grant Program (Section 3028) offers competitive grant funding to states, local governments, and transit agencies that operate commuter rail systems to install positive train control (PTC) systems required under 49 U.S.C. 20157. Grant funds may be used to pay for capital costs of installing PTC systems and related activities such as back office systems, wayside, communications and onboard hardware equipment and software, equipment installation, and spectrum acquisition. Preventive maintenance and overhaul costs, new vehicle procurement, real estate property acquisition, building construction and acquisition, and operating expenses are not eligible costs. The federal share of eligible capital costs is 80 percent of the net capital project cost, unless the grant recipient requests a lower percentage.

Safety Research and Demonstration (SRD) Program

The Safety Research and Demonstration (SRD) Program is part of a larger safety research effort at the USDOT that provides technical and financial support for transit agencies to pursue innovative approaches to eliminate or mitigate safety hazards. In FY 2016, the SRD program targeted collision avoidance and mitigation, as well as transit worker safety protection, and provided \$8.5 million in competitive grants for seven transit agencies to

demonstrate technologies and safer design. The federal share of eligible capital costs is 80 percent, unless the grant recipient requests a lower percentage.

FEDERAL RAILROAD ADMINISTRATION

FAST Act FRA Grant Programs

The FAST Act authorizes \$2.2 billion over five years for three new competitive grant programs for rail development, which have not been appropriated by Congress nor had funding availability announced by USDOT:

- The Federal Railroad Administration (FRA) Federal-State Partnership for State of Good Repair program seeks to reduce the state of good repair backlog on publicly-owned or Amtrak-owned infrastructure, equipment, and facilities. Eligible activities include capital projects to (1) replace existing assets in-kind or with assets that increase capacity or service levels, (2) ensure that service can be maintained while existing assets are brought into a state of good repair, (3) bring existing assets into a state of good repair.
- The FRA Restoration and Enhancement Grant program provides operating assistance to initiate, restore, or enhance intercity passenger rail transportation. Grants are limited to three years of operating assistance per route and may not be renewed.
- The FRA Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program seeks to improve the safety, efficiency, and reliability of passenger and freight rail systems. Eligible activities include a wide range of capital, regional and corridor planning, environmental analyses, research, workforce development, and training projects.

Railroad Safety Infrastructure Improvement Grants

In its FY 2016 Consolidated Appropriations Act, Congress appropriated \$25 million for FRA to fund safety improvements to railroad infrastructure. Eligible projects included the acquisition, improvement, or rehabilitation of intermodal or rail equipment, such as rolling stock, locomotives, and passenger cars; or rail facilities, including track, bridges, tunnels, yards, buildings, passenger stations, and maintenance and repair shops. Projects that make improvements to highway-rail at-grade crossings, including grade separations and grade crossing closures, are also eligible, as are improvements necessary to establish a quiet zone. The federal share of eligible capital costs is 50 percent. Each application was requested to limit its request to \$5 million.

Positive Train Control Grants

In its FY 2016 Consolidated Appropriations Act, Congress appropriated \$25 million for FRA to fund railroad safety technology projects belonging to agencies implementing PTC systems or otherwise benefitting from PTC systems on freight, intercity passenger, and commuter railroads. The federal share of eligible capital costs is 80 percent. Each application was requested to limit its request to \$3 million.

In May 2017, USDOT announced 17 grant recipients in 13 states who will receive \$197 million in competitive PTC grant funding, authorized under the FAST Act, to help commuter and intercity passenger railroads meet the December 31, 2018 deadline to implement PTC systems to improve safety. FRA and FTA received 27 eligible applications requesting \$455 million, more than double the \$197 million that Congress authorized. FRA was responsible for the selection of the grant recipients, and FTA will award and administer the grants.

FEDERAL AVIATION ADMINISTRATION

Airport Improvement Program

The Airport Improvement Program (AIP) provides grant funding for airport capital planning and development. Eligible projects include those that improve airport safety, security, and capacity, or respond to environmental concerns. For example, runway, taxiway, and apron construction or rehabilitation; airfield lighting, signage, and drainage projects; and planning and environmental studies are all eligible, while expenses such as maintenance equipment and vehicles, and office space and equipment are not.

C1.3 FINANCING MECHANISMS

U.S. DEPARTMENT OF TRANSPORTATION (USDOT)

Transportation Infrastructure Finance and Innovation Act (TIFIA) Loans

Administered by the Build America Bureau, the Transportation Infrastructure Finance and Innovation Act (TIFIA) credit program provides important financing options (direct loans, loan guarantees, and standby lines of credit) for large projects and public-private partnerships. Broadly speaking, TIFIA provides credit assistance for qualified projects of regional and national significance. By offering loan guarantees and more favorable credit-terms than the private capital market, TIFIA enables recipients to more easily attract private investment. TIFIA offers fixed interest rates at a level equal to Treasury rates, which are typically less than those offered in the private market. Loan terms may last up to 35 years past substantial completion, and the first payment may be deferred for up to five years after completion. In addition to the initial funding, TIFIA offers a standby line of credit that can supplement project revenues if needed within the first 10 years after substantial completion.

The FAST Act authorized TIFIA at \$285 million for FY 2018 and \$300 million for FY 2019 and FY 2020, representing a cut to the TIFIA program from prior levels (\$750 million in FY 2013 and \$1 billion in FY 2014) that could constrain growth in the program's lending capacity over the course of time.

Any highway project and transit capital project eligible for federal aid is eligible for the TIFIA program, including intelligent transportation systems (ITS), international bridges and tunnels, intercity passenger bus and rail facilities and vehicles, publicly-owned freight rail facilities, private facilities providing public benefit for highway users, intermodal freight transfer facilities, projects that provide access to such facilities, service improvements on or adjacent to the National Highway System, and projects located within the boundary of a port terminal under certain conditions.

Major requirements include a capital cost of at least \$50 million (or 33.3 percent of a state's annual apportionment of Federal-aid funds, whichever is less) or \$15 million in the case of ITS and \$10 million for transit-oriented development, local, and rural projects. TIFIA credit assistance is limited to a maximum of 33 percent of the total eligible project costs, unless the sponsor provides compelling justification for up to 49 percent. Senior debt must be rated investment grade. The project also must be supported in whole or in part from user charges or other non-federal dedicated funding sources and be included in the state's transportation plan. Qualified projects are evaluated by the US Transportation Secretary against eight statutory criteria, including among others, impact on the environment, significance to the national transportation system, and the extent to which they generate economic benefits, leverage private capital, and promote innovative technologies. TIFIA credit assistance is available for construction activities. Eligible candidates must meet the following requirements:

- Creditworthiness:
 - Ability to satisfy applicable creditworthiness standards
 - Rate covenant, if applicable
 - Adequate coverage requirements to ensure repayment
 - Ability to obtain investment grade ratings on senior debt;
- Fosters partnerships that attract public and private investment for the project;
- Ability to proceed at an earlier date or reduced lifecycle costs (including debt service costs);
- Reduces contribution of federal grant assistance for the project; and
- Construction contracting process can commence no more than 90 days from execution of a TIFIA credit instrument.

Private Activity Bonds

Private Activity Bonds (PABs) incentivize private investment by allowing private entities to benefit from the lower costs of tax-exempt bonds when investing in transportation infrastructure. Public entities act as conduit issuers of PABs, issuing tax-exempt debt for transportation projects with substantial private sector participation. The 2005 Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) authorized up to \$15 billion in PABs to be used for highway and freight transfer facilities. As of January 23, 2017, \$6.6 billion in PABs have been issued for 17 projects, including \$325 million for the CenterPoint Intermodal Center in Joliet (with the Illinois Finance Authority acting as the conduit issuer).

Eligible projects include any surface transportation project or facility for the transfer of freight from truck to rail or vice versa receiving federal funding under Title 23 of the United States Code, including projects receiving TIFIA credit assistance. HR 1 (the federal Tax Cut and Jobs Act) as currently written excludes PABs from the financing tools available for transportation projects. If this bill passes in the U.S. Senate, this tool will no longer be available.

State Infrastructure Banks

State Infrastructure Banks (SIBs) are state-managed revolving loan funds intended to support infrastructure investment. Pilot SIB programs were introduced in the National Highway System Designation Act of 1995 (NHS) and the Transportation Equity Act for the 21st Century (TEA-21), and a permanent program was authorized by Congress in 2005. Thirty-three states, not including Illinois, have participated in one of these programs. To introduce a new SIB program, states may use 10 percent of federal funds received, matched with 25 percent in non-federal funding.

FEDERAL HIGHWAY ADMINISTRATION (FHWA)

Grant Anticipation Revenue Vehicles (GARVEEs)

Grant Anticipation Revenue Vehicles (GARVEEs) are debt-financing instruments repaid with future Federal-aid highway funds. As of March 2016, 25 states and 3 territories have issued over \$19.1 billion in GARVEEs. GARVEEs are available to states and territories receiving federal highway aid, and highway projects financed with GARVEE proceeds must follow all Federal-aid requirements.

GARVEE financing generates up-front capital for major highway projects at generally tax-exempt rates and enables a state to construct a project earlier than if using traditional pay-as-you go grant resources. With projects

in place sooner, costs are lower due to inflation savings, and the public realizes safety and economic benefits. By paying with future federal highway reimbursements, the cost of the facility is spread over its useful life, rather than just the construction period. GARVEEs can expand access to capital markets as a supplement to general obligation or revenue bonds. The upfront monetization benefit of these techniques needs to be weighed against consuming a portion of future years' receivables to pay debt service. This approach is appropriate for large, long-lived, non-revenue generating assets. Potential disadvantages of GARVEE financing are a reduction in financial, programmatic, and political flexibility for those years in which debt service consumes a portion of the annual transportation program, capacity constraints with respect to availability of contractors, consultants, construction materials, and labor and public agencies, and the possibility of induced inflation as GARVEE proceeds affect the market.

FEDERAL TRANSIT ADMINISTRATION (FTA)

Revenue Bonds

There are two types of revenue bonds that are generally used for public transit projects in the United States. The first, farebox revenue bonds, use farebox revenues and anticipated grant receipts as collateral for revenue bonds, which can only be backed by farebox revenues if the level of state and local funding committed to transit for the three years following the bond issue are higher than the funds that were committed in the three years prior to the bond issue. Transit agencies must identify another source of funds for the agency's operating expenses before issuing a farebox revenue bond.

Like GARVEEs, transit agencies can also borrow against future federal-aid funds (FTA Title 49 grants) that are allocated by formula (Section 5307) or by project (Section 5309). These transit debt mechanisms are known as Grant Anticipation Notes (GANs), and do not include debt-related financing costs such as interest and issuance costs. An agency issues GANs secured with a pledge of federal-aid assistance, thus amassing up-front capital, and pays down the bonds over a period as the Federal funds are received. GANs are available to agencies receiving federal transit aid.

Discretionary grants for projects requiring more than one year of federal funding are required to have an FTA Full Funding Grant Agreement that defines the project scope and maximum federal participation levels. However, the amount and schedule of payments may shift; as a result, GANs backed by discretionary grants are considered riskier than those backed by formula funds.

FEDERAL RAILROAD ADMINISTRATION (FRA)

Railroad Rehabilitation & Improvement Financing (RRIF) Program

FRA Railroad Rehabilitation & Improvement Financing (RRIF) provides direct loans and loan guarantees to acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, bridges, yards, buildings and shops; refinance outstanding debt incurred for the purposes listed above; and develop or establish new intermodal or railroad facilities. The Build America Bureau administers the program, providing direct loans and loan guarantees up to \$35 billion to finance development of railroad infrastructure. Up to \$7.0 billion is reserved for projects benefiting freight railroads other than Class I carriers. The funding may be used to acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings and shops; refinance outstanding debt incurred for the purposes listed above; and develop or establish new intermodal or railroad facilities. Direct loans can fund up to 100 percent of a railroad

project with repayment periods of up to 35 years and interest rates equal to the cost of borrowing to the government.

FEDERAL AVIATION ADMINISTRATION

Passenger Facility Charge

The Passenger Facility Charge (PFC) program permits commercial service airports to charge passengers a fee, ranging between \$1 and \$4.50, and use the revenue to fund FAA approved projects (including to meet the non-federal share of costs in combination with AIP funds or other federal grants) and pay debt service costs. Eligible projects must improve airport safety, security or capacity; reduce or mitigate airport noise; or enhance competition between air carriers. Use of PFC may reduce an airport's receipt of AIP funding for medium and large hub airports.

C.2 PUBLIC PRIVATE PARTNERSHIPS

P3 enabling legislation typically includes provisions that specify which entities have authority to use P3 and which models and processes are approved for use (such as project type, sector type, and / or delivery model), as well as the geographic location where P3 projects may be located. In Illinois, the Public-Private Partnerships for Transportation Act (Ill. Rev. Stat. Ch. 630 §5/5 et seq.; the "Act") broadly gives authority to IDOT and the Illinois State Toll Highway Authority to use P3 as a project delivery method, except for airports. That authority, however, is subject to several conditions. The Act outlines project types, length of term, delivery models, compensation terms, procurement processes, and oversight mechanisms that impact IDOT's P3 projects. Many of these conditions are common across P3 enabling statutes in the U.S.

Legislative approval is also required for new toll highways (630 ILCS 5/1 et seq.; 20 ILCS 2705/2705-450). As a result, the state legislature passed separate measures to provide project-specific authority for the Illiana Expressway (605 ILCS 130/1 et seq.) and the South Suburban Airport (620 ILCS 75/2-1 et seq.).

C.2.1 COMPARISON TO PEER STATES

Many of the Act's terms and conditions are common across the 36 states that have enabling legislation in place for P3. There is some difference across U.S. states in these conditions – some states are more permissive and others are more stringent – but Illinois' Act is generally considered moderate in terms of its prescriptive nature. Conditions for revenue use, applicable funding and financing, and oversight mechanisms are areas for greatest variance between IDOT and other states. It is common for P3 enabling statutes to limit or define how revenue may be generated for P3 concessions. It is also common for P3 enabling statutes to define oversight mechanisms. The difference is the degree to which those limitations define state DOTs' ability to identify P3 projects or successfully bring a project forward and move it toward financial close.

Revenue Use and Applicable Funding /Financing

The Act defines IDOT's ability to use tolling on P3 projects as well as defines how funding/financing and revenues may be used. These are important provisions because they affect IDOT's ability to structure a P3 agreement for optimal financial results. The Act's provisions, however, are fairly market standard, and not particularly burdensome, in comparison to other states. Usually these provisions reflect each state's approach to tolling, revenue generation, or use of existing financing tools.

Oversight Mechanisms

Twenty-four out of 36 states have some form of oversight built into their respective enabling statutes for P3, including Illinois. Oversight can range from the requirement of an independent authority to review selected proposers, to the approval of a legislative body, to the role of an elected official as the final decision-maker. On one hand, oversight mechanisms are intended to protect the public interest. On the other hand, these mechanisms can be used to restrict the advancement of P3 projects or cancel P3 projects that have gone through the procurement process. Most states with P3 legislation have one of these oversight mechanisms in place. Illinois, by comparison, has four oversight checkpoints that may impede the expedient identification and procurement of a P3 project. While these oversight mechanisms are intended to advance P3 projects that benefit the State of Illinois and its constituents, they may pose onerous barriers if the political climate is difficult.

As with provisions related to revenue use and funding / financing, oversight mechanisms are largely a reflection of the state's approach to legislative involvement. In Illinois, IDOT is an active participant in the legislative process and the General Assembly provides an oversight role in the allocation of state / federal funds, administrative rules, and appropriations. IDOT is also subject to audits by the legislature's Office of the Auditor General. In many ways, then, the P3 statute mirrors IDOT's existing relationship with the General Assembly. As currently written, the Act requires a higher level of oversight for P3 projects compared to Illinois' peer states. There may be an opportunity to reduce the level of oversight without sacrificing its purpose in ensuring P3 is applied to projects with the greatest benefit to the public.

P3 Offices and Advisory Bodies

Many states with successful P3 programs have created a P3 office and P3 advisory body that are structured to provide ongoing authority to procure P3 projects. States where elected officials make approvals on P3 projects, particularly any approvals occurring after a procurement has advanced significantly, have had much less success implementing P3 projects because the private sector views these approvals as unacceptable risks.

P3 offices provide centralized, dedicated, and specialized expertise to screen and deliver P3 projects. Such offices typically oversee significant aspects of P3 project delivery, including leading procurement efforts, conducting value-for-money analyses, managing the implementation of projects, negotiating contract terms, and coordinating review and approval with other public entities. Although P3 offices provide significant benefits, there are challenges to consider. For a P3 office to succeed, it needs to be adequately staffed with internal (and potentially external) experts and advisors. Moreover, the benefits of this structure are best realized when there is a steady pipeline of projects, allowing for efficient use of internal resources.

P3 advisory bodies are typically composed of members appointed by executive and legislative branch officers, and provide the approvals necessary for the P3 projects promoted by the P3 office. Sometimes the Transportation Commission serves as the P3 advisory body. P3 advisory bodies also present certain challenges related to the vulnerability of the P3 approval process to political risk, but less so than elected officials making the approvals. Political influence on the P3 advisory body can introduce greater unpredictability, and if widely apparent, can decrease the private sector's confidence in the P3 process.

C2.2 KEY ELEMENTS OF A PUBLIC-PRIVATE PARTNERSHIP

To understand how P3s may be used in reaching Illinois' long-term transportation goals, one must understand the key elements that make up a P3, and related benefits. P3 differs from traditional public sector contracting because the private sector is assuming responsibility for some role(s) or some services/functions that traditionally were provided by the public sector. To summarize, the key elements of a P3 include:

- Roles of the Public and Private Sectors: The private sector party engaged in the P3 assumes varying degrees of responsibility for the design, construction, financing, operation, and maintenance of a public asset. The public-sector entity retains ownership and oversight of the asset. Contractual agreements often take the form of concession or lease contracts, in which the private party operates and maintains the asset for a period post-construction. These role changes represent shifts in responsibility and reduction in risk to the public entity, albeit at a cost.
- Procurement Processes: The P3 agreement is the central contract formed between the public entity and the private party. To establish this contract and appropriate terms that allow the public entity to reach its goals for the project, the procurement process requires greater coordination to ensure the best value proposer for the project is selected.
- Transfer of Risk: P3 is distinguished by transfer of financial, technical, and operational risks to the private sector, which varies depending on the specific contractual model selected. Each party shares in risks and rewards in the delivery of assets and services. The primary benefit to the public entity is knowing they don't have to pay unless the private sector partner delivers what they are contractually obligated to do, both for capital and operational items, as prescribed in the project specifications.
- Performance-Based Specifications: The private party provides assets and services for use by the public to prescribed performance-based specifications, which are linked to contractual agreement terms. Payment, particularly for "availability payment" P3 structures, is often contingent on meeting these specifications, so as noted above, the risk of the contractor not performing is reduced by the ability to withhold payment.
- Project Finance: The project may be structured such that a private party assumes responsibility for the financing and its lenders and equity-holders are repaid through revenues generated by the asset (or funding committed by the public entity). Equity-holders are "paid last", meaning that a return on their investment in the project is not paid until lenders are satisfied first. However, the equity investment return is usually much higher, often in the 12 to 18 percent range relative to interest rates on debt, which may be in the four to eight percent range.

As a project delivery tool, P3 differs significantly from traditional means of procuring and financing transportation projects. The use of P3 in Illinois, then, must be carefully considered in light of the state's long-range transportation goals, context and conditions of individual projects, and the complexity of P3 delivery. Special legal, financial, and technical advisors are recommended to help structure the deal during the procurement to ensure goals are met through proper contract development.

C2.3 BENEFITS AND COSTS OF PUBLIC-PRIVATE PARTNERSHIPS

Projects and owner-agencies goals for projects and project delivery differ significantly, therefore owners need to think carefully about what they want to achieve from using an alternative delivery approach and weigh the costs and benefits.

Potential Benefits

Due to the consolidated nature of the P3 legal agreement and the use of project finance, P3s can provide greater budget and schedule certainty to the public entity. The private party's lenders drive rigorous fiscal management and incentivize the private party to adhere to contractual terms to meet repayment schedules. The private party is also incentivized to meet the public entity's schedule and is often rewarded for expediting project delivery – both elements are tied to payments made by the public entity to the private party, which in turn expedites repayment to lenders and equity-holders.

Cost savings can be achieved when all phases of the project are integrated into one contract, which reduces friction costs between phases of project development. Usually, the private party must estimate the life-cycle costs and build those costs into their financial model as well. The private party is incentivized in a variety of other ways to seek cost savings in all phases of the project development, using innovation to accelerate investor returns.

The transfer of risk between the public and private sector is another potential benefit. Risk is allocated to the party best able to manage that risk. In a P3, that means that the private party may assume risks that are typically borne by the public entity – such as demand, operations and maintenance, project site risks (such as geotechnical or environmental risks). The private party takes on these risks because they believe they can mitigate them in a more efficient or cost-effective way than the public entity.

Improved performance and innovation are other potential benefits of the P3 delivery method. The public entity can specify performance conditions by which the private party must meet to secure repayment. A private party may seek innovative ways to approach the project – by improving service delivery, using different materials, designing the project differently or any number of innovative ways – to reduce costs and / or help meet performance conditions more effectively. Public entities, like IDOT, must carefully consider their project's goals and objectives when prioritizing and weighing the potential benefits of P3 project delivery.

Potential Costs

There are several potential costs to P3 project delivery. As described above, P3 transactions can be complex and require more management than traditional contracting. There is a need to align the public entity's goals with the private sector's appetite for the project, along with a need to anticipate all possible financial, legal, and technical contingencies. As a result, P3 projects tend to have higher transactional costs than traditional delivery. In some cases, these higher costs are offset by lower design costs, given most design is passed on to the private partner.

Although P3s can offer access to capital, they do not provide states with new funding; in fact, P3s need a revenue stream to work. If a project does not generate a discrete stream of revenue, the public entity will often seek state or federal grant funding or other forms of funding to repay the private party. Considering that private capital is more expensive than capital derived from public sources such as bonds or taxes, P3 may also not be cost-effective or appropriate if there is not sufficient risk transfer to justify higher costs of capital.

Public entities generally weigh the benefits and costs of P3 delivery by analyzing the "value for money", or the difference in cost of delivery between a private capital approach and a public approach. This form of study allows the public entity to quantify and analyze the costs and benefits of a variety of procurement models. As Illinois considers its long-range transportation needs, a robust dialogue around the potential benefits and costs of P3 delivery must be applied to any projects considered for this method.

C2.4 SELECTING OPTIMAL PROJECTS FOR PUBLIC-PRIVATE PARTNERSHIP DELIVERY

Like most organizations, IDOT is developing their own project screening framework to help identify what projects are appropriate to consider for P3 delivery. The screening framework allows the public entity to consider how the delivery method may leverage project-specific characteristics to drive better "value for money", such as scalability, replicability, properly allocating risks, or improving service delivery. Screening projects for P3 project delivery may consider the following:

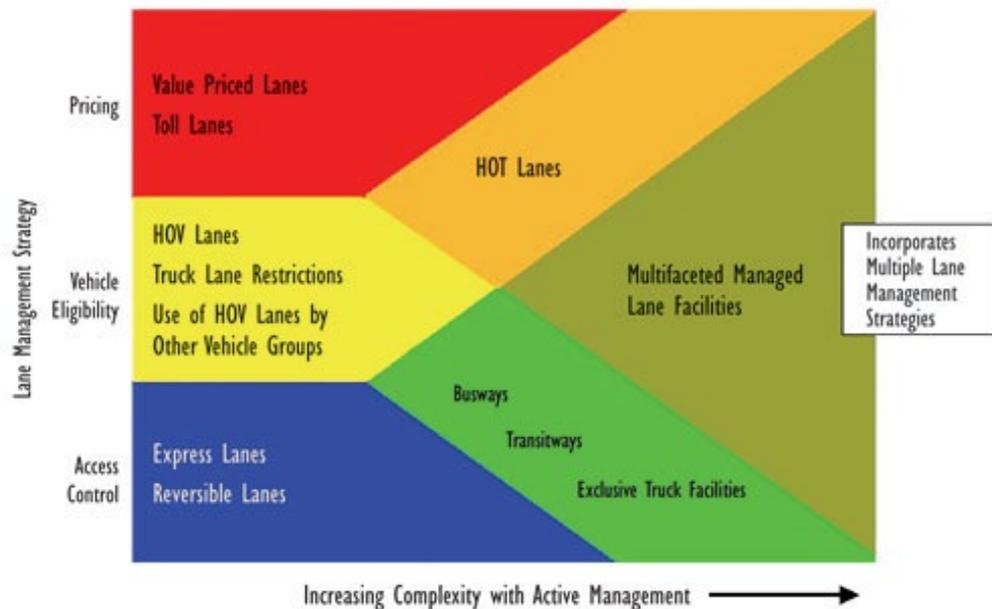
- ➔ Available funding and financing: The public entity would consider its ability to fund the project and its ability to utilize financing mechanisms to reduce the cost of the project overall.

- ➔ Community support: The public entity would consider which projects are critical to meeting their long-range needs and would identify those projects that enjoy community support. Community support often indicates that the project planning and development would go smoothly and provide a final asset that meets the needs of its stakeholders.
- ➔ Large, complex scope: Since P3 has higher transactional costs and relies on the transfer of risk to deliver the highest “value for money,” the public entity would prioritize those projects with large, complex scope of work.
- ➔ Stable, long-term revenue stream: The public entity would work to identify the projects that can generate revenue, which would attract private investment and allow the public entity to shift financial resources to other projects.
- ➔ Completed (or nearly complete) environmental processes: Projects that have completed significant efforts to plan for development are projects that are most likely to succeed and move forward. Those projects that have not completed the requisite environmental and planning processes are those that are likely to be delayed while those efforts are completed.

C.3 MANAGED LANES AND ROAD PRICING

Managed lane strategies have gained popularity in recent years to actively manage demand on existing roadways. Demand management strategies include pricing (traditional tolling and congestion-based pricing), vehicle-eligibility restrictions (e.g., truck only, high-occupancy vehicles only), and access control (e.g., express lanes with fewer entrance/exit opportunities). Figure D-1 illustrates various types of managed lanes and how they relate to these three broad strategies.

Figure C-1. Managed Lane Applications



Source: Federal Highway Administration

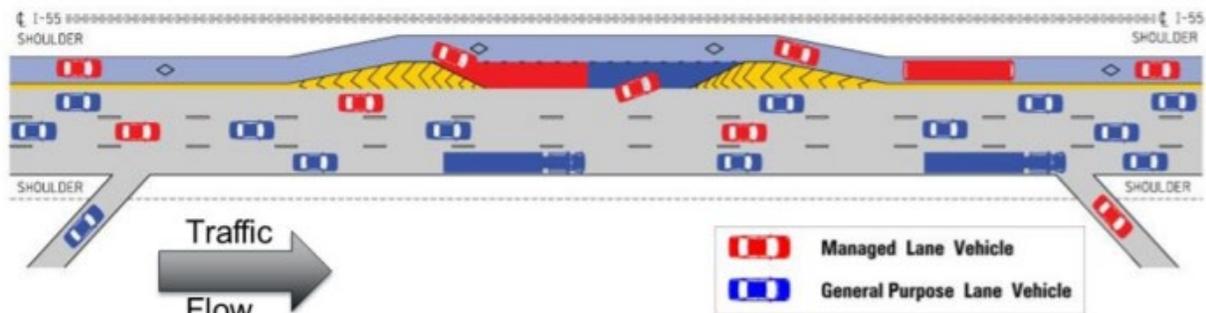
Often, when people use the term “managed lanes,” they are referring specifically to strategies that combine pricing with access or vehicle eligibility restrictions. Though priced managed lanes charge users and contribute to the costs of the project, the charges often do not cover all costs of building and maintaining the lanes. The

Moving Ahead for Progress in the 21st Century Act (MAP-21) legislation expanded the potential use of priced managed lane strategies by authorizing tolling of new lanes on previously toll-free highways, if the same number of toll-free lanes remains, and permitting tolling for initial construction on the Interstate System (rather than just non-Interstate facilities as before).

Priced managed lanes may rely on static or variable pricing (also called congestion or value pricing), and controlled or continuous access:

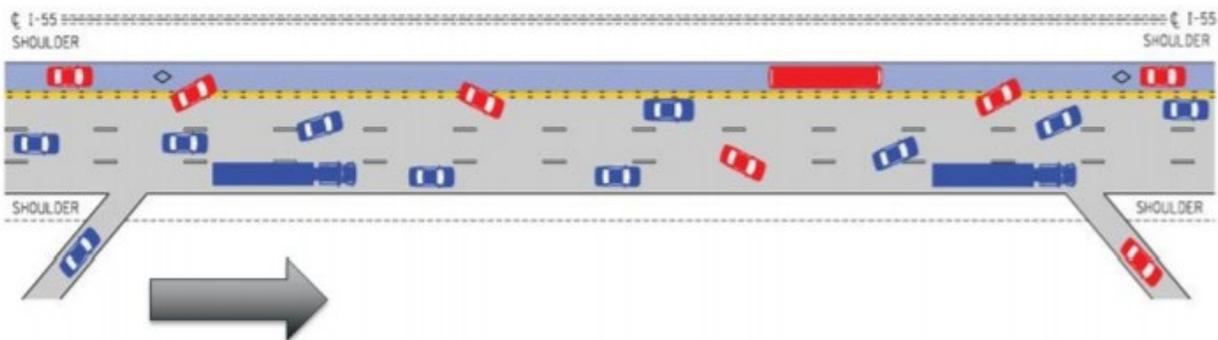
- **Variable/Congestion/Value Pricing:** The use of pricing to moderate demand during peak periods is common in sectors such as power and air travel. Similarly, the concept of value pricing within the highway sector involves the introduction of road user charges that vary with the level of congestion and/or time of day, providing incentives for motorists to shift some trips to off-peak times, less-congested routes, or alternative modes. Higher prices may also encourage motorists to combine lower-valued trips with other journeys or eliminate them entirely. When peak-period volumes are high, a shift in a relatively small proportion of trips can lead to substantial reductions in overall congestion levels and more reliable travel times. In managed lane systems that use variable pricing, motorists typically receive information on price levels and travel conditions via variable message signs, providing potential users with information they need to decide whether to use the priced lanes or the general-purpose lanes.
- **Access:** Controlled access lanes include barriers that permit entry and exit only at designated areas. This lane style reduces demand by limiting access, and requires tolling technology only at designated entry and exit points (see **Figure D-2**). Continuous access lanes enable vehicles to enter and exit the managed lane anywhere, as if it were a traditional lane (see **Figure D-3**). One challenge of continuous access express toll lanes is the need for more complex tolling mechanisms.

Figure C-2. Controlled Access Express Toll Lane Configuration



Source: I-55 Managed Lane Project Study Project Report

Figure C-3. Continuous Access Express Toll Lane Configuration



Source: I-55 Managed Lane Project Study Project Report

Types of priced managed lanes include High Occupancy Toll (HOT) lanes, Express Toll Lanes (ETL), Truck Only Toll (TOT) lanes, and Bus Toll Lanes (BTL), described in more detail in the following subsections. Each of these options can be configured for controlled or continuous access, and may include constant or congestion-based pricing.

EXPRESS TOLL LANES

ETLs operate alongside free general-purpose lanes and require payment for vehicles to use the lanes. They are typically located next to the median to encourage travel for longer distance trips. Unlike HOT lanes, ETLs charge all vehicles—including HOVs—for passage. In some cases, they may also offer discounted passage for HOVs, but ETLs do not incentivize ride sharing to the extent that HOT lanes do. Enforcement is much simpler and less costly than HOT lanes because there is no need to enforce vehicle occupancy. ETL concepts are also attractive to transportation agencies that want to use toll revenues to cover the cost of new construction and operation.

HIGH-OCCUPANCY TOLL LANES

HOT lanes are a variant of ETLs in which high-occupancy vehicles are permitted to use the lane for free (or at a discount), while all other vehicles must choose between the general-purpose lanes or paying for premium conditions in the HOT lane. HOT lanes are typically introduced where traditional HOV lanes already exist, thereby allowing low-occupancy vehicles to pay to use a lane previously unavailable to them. The threshold for “high-occupancy” is typically set at two or three occupants, including the driver. In some cases, other vehicle types may also be excluded from the toll, such as hybrid or electric vehicles.

TRUCK-ONLY TOLL LANES

Another variation on ETLs are TOT lanes, which allow commercial vehicles to pay a toll to use an exclusive lane. Most often commercial vehicles are given the option to remain on normal use lanes and avoid the toll. Currently, there are no TOT lanes in the U.S., although there have been a few studies and proposals to implement TOTs (such as the I-70 Truck Lane Study from Missouri to Ohio and the Austin Texas area TOT Study). Truck lanes are best suited to locations where merge/diverge maneuvers can be improved with a dedicated lane or roadway for a short distance.

BUS TOLL LANES

BTLs represent the pricing of a managed lane or lanes with up to 10 percent of the capacity dedicated to bus transit. BTL is not a HOT lane. Only transit buses would be allowed to use the lane(s) without paying a toll.

C3.1 MANAGED LANES IN ILLINOIS

Illinois presently utilizes simple demand management strategies, including traditional toll lanes, express lanes, and reversible lanes, and not priced managed lanes. However, IDOT has begun exploring priced managed lane strategies in recent years, as part of the I-55 Managed Lane Project and the I-290 Phase 1 Study.

For I-55, IDOT studied ETL and HOT lane options, in addition to vehicle restriction strategies like HOV lanes and truck only lanes (TOL). An ETL using congestion pricing was identified as the preferred alternative, due to the simpler enforcement effort required and optimum ability to respond to real-time traffic conditions.

The I-290 study considered HOT lanes, as well as HOV lanes and general toll lanes, and identified a HOT3+ lane (HOT lane with high-occupancy defined as three or more occupants) as the preferred alternative. West of Austin Boulevard a new lane would be constructed as a HOT3+ lane, and east of Austin Boulevard a general-purpose lane would be converted to the HOT3+ lane under FHWA's Value Pricing Pilot Program, resulting in three general-purpose lanes and one HOT3+ lane in each direction for the entire project.

In Illinois, the Illinois State Toll Highway Authority has jurisdiction over all toll facilities, and any new tollways must be approved by the state legislature.