



Livability



3. Livability

A transportation system that provides reliable, safe access to jobs, education, health care and goods and services is as important to rural communities as it is to urban communities. By integrating livability principles into transportation planning, Illinois can maximize the efficiency of existing transportation investments and provide improved access within the state and beyond. IDOT is approaching livability in transportation with innovative and practical strategies – using a collaborative transportation planning process to guide successful implementation.

Incorporating livability into transportation planning is not a new concept. Transportation stakeholders have been making places more livable through transportation initiatives for several generations. Although most livability initiatives are implemented at the regional level, a focus at the state level is just as feasible and beneficial. Therefore, IDOT is



Enhance the quality of life across the state by ensuring that transportation investments advance local goals, provide multimodal options, and preserve the environment.

WHAT IS LIVABILITY?

The concept of livability is often used when describing initiatives related to improving quality of life while supporting broader sustainability goals. Livability consists of multidimensional issues relative to land use, environmental protection, enhanced mobility and accessibility, public health, and economic well-being.

Livability in transportation is about integrating the quality, location and type of transportation facilities. As such, livability can be understood as a set of flexible principles to guide transportation decision-making, including:

- » **Access:** Provide access to jobs, schools, recreational facilities, shopping and businesses via transportation and land-use planning.
- » **Choice:** Offer a range of multimodal transportation options, affording people choices to destinations.
- » **Quality of life:** Support the public's overall well-being – including health, social, economic and other types of well-being – within one's own community.

Fostering livability in transportation projects and programs results in improved quality of life; creates more efficient, robust and accessible transportation network; promotes active lifestyles; and serves the mobility needs of transportation users. Livable transportation systems provide better access to jobs, services and housing, thereby helping to reduce impacts on and enhance the natural and built environment, and support more efficient land-use development patterns. Furthermore, livable transportation systems accommodate a range of modes by creating mobility choice within balanced multimodal transportation networks.

incorporating the goal of livability into the LRTP to help define transportation needs or problems prior to developing solutions.

The *Livability in Transportation Guidebook* developed by the U.S. Department of Transportation's (USDOT) Federal Highway Administration (FHWA) and Federal Transit Administration (FTA)¹ describes livability in the following way:



Livability is about using the quality, location, and type of transportation facilities and services available to help achieve broader community goals such as access to good jobs, affordable housing, quality schools, and safe streets. This includes addressing road safety and capacity issues through better planning and design, maximizing and expanding new technologies such as intelligent transportation systems (ITS) and quiet pavements, and using travel demand management (TDM) approaches in system planning and operations. It also includes developing high quality public transportation to foster economic development, and community design that offers residents and workers the full range of transportation choices. And, it involves strategically connecting the modal pieces—bikeways, pedestrian facilities, transit services, and roadways—into a truly intermodal, interconnected system.



LIVABILITY PRINCIPLES

Several national efforts and initiatives have goals that align with livability: context-sensitive solutions, new urbanism, complete streets and walkable communities. The national discussion of livability became more significant with the creation of the joint Interagency Partnership for Sustainable Communities between the USDOT, U.S. Department of Housing and Urban Development (HUD), and the Environmental Protection Agency (EPA) in June 2009. The initiative of this interagency partnership resulted in the identification of six principles of livability²:

- **Provide more transportation choices.** Develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.
- **Promote equitable, affordable housing.** Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transportation.
- **Enhance economic competitiveness.** Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers, as well as expanded business access to markets.
- **Support existing communities.** Target federal funding toward existing communities – through strategies like transit-oriented, mixed-use development and land recycling – to increase community revitalization and the efficiency of public works investments and safeguard rural landscapes.
- **Coordinate and leverage federal policies and investment.** Align federal policies and funding to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.

1 https://www.fhwa.dot.gov/livability/case_studies/guidebook/livabilitygb10.pdf, accessed August 10, 2017.

2 https://www.fhwa.dot.gov/livability/case_studies/guidebook/livabilitygb10.pdf, accessed August 10, 2017.

- **Value communities and neighborhoods.** Enhance the unique characteristics of all communities by investing in healthy, safe and walkable neighborhoods, whether they be rural, urban or suburban.

3.1 LIVABILITY AND IDOT

All states administer livability-related federal funding programs. Furthermore, some states have developed initiatives that combine multiple livability-related issues³. There are a number of initiatives IDOT has undertaken in recent years to enhance livability and bring a greater focus on improving livability to projects selected and implemented across the state. These initiatives range from joint councils, to analytical tools, to cutting edge research and policy, some of which are described in greater detail below.



Our roads are your main streets. —Illinois Secretary of Transportation, Randy Blankenhorn

3.1.1 I-LAST

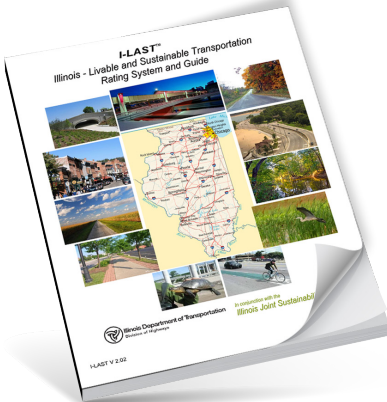
IDOT links livability and sustainability together in the belief that sustainable transportation choices create a more livable environment. One example of this is the Illinois-Livable and Sustainable Transportation (I-LAST) Rating System and Guide. In January 2010, the American Council of Engineering Companies – Illinois (ACEC-IL), alongside IDOT and the Illinois Road and Transportation Builders Association (IRTBA), formed a Joint Sustainability Group and created I-LAST. The I-LAST is a practical manual for transportation infrastructure practitioners, and serves as both a rating system and a guide for livable and sustainable transportation infrastructure in Illinois. The purpose of I-LAST is as follows⁴:

- Provide a comprehensive list of practices that have the potential to bring sustainable results to highway projects.
- Establish a simple and efficient method of evaluating transportation projects with respect to livability, sustainability and effect on the natural environment.
- Record and recognize the use of sustainable practices in the transportation industry.
- Encourage the use of innovative and experimental sustainable concepts.

I-LAST is not an official policy or procedure IDOT follows, and is purely advisory in nature. I-LAST includes a point system for evaluating the following eight measures in a project at the beginning and end of the design phase, and during construction:

- | | | | |
|------------|-----------------|------------------|--------------|
| ▪ Planning | ▪ Environmental | ▪ Transportation | ▪ Materials |
| ▪ Design | ▪ Water Quality | ▪ Lighting | ▪ Innovation |

The overall impact of I-LAST has been to serve as an inventory of best practices and to provide a simple framework for evaluating different scales and phases of transportation projects.



IDOT continues to develop and encourage the use of the I-LAST rating system to incorporate livability into every phase of project development.

³ https://www.fhwa.dot.gov/livability/fact_sheets/statedotsandlivability.cfm, accessed September 8, 2017.

⁴ I-LAST, Illinois-Livable and Sustainable Transportation Rating System and Guide, September 27, 2012

3.1.2 PERFORMANCE-BASED PROJECT SELECTION PROCESS

IDOT utilized a performance-based project selection process to evaluate and prioritize major expansion projects within the Proposed Multi-Year Highway Improvement Program (FY 2018-2023) in 2017. The process aligns with the goals of the LRTP. This informed and open decision-making process provides the following for state taxpayer dollars:

- Evaluates projects using a consistent set of criteria.
- Aligns funding with projects that provide high return on investment.
- Connects transportation solutions with corridor needs.
- Provides opportunity for ongoing public and stakeholder engagement.

The process focuses on a series of performance measures alongside community input on the importance of each goal. The following details the goals and supporting performance measures developed for the performance selection process⁵:

| TRAFFIC OPERATIONS/ CONGESTION | SAFETY | ECONOMIC DEVELOPMENT | LIVABILITY |
|---|---|---|---|
| <ul style="list-style-type: none"> ✓ Annual average daily traffic ✓ Volume/capacity ratio ✓ Hours of delay | <ul style="list-style-type: none"> ✓ Safer roads index ✓ Safety benefit | <ul style="list-style-type: none"> ✓ Travel time reliability ✓ Freight hours of delay ✓ Intermodal accessibility ✓ Economic development proximity index | <ul style="list-style-type: none"> ✓ Access to jobs ✓ Access to multimodal choices ✓ Active transportation accessibility ✓ Environmental impact |

The performance measures for livability are used to quantify the benefits of each major project in coordination with four other overarching transportation goals and subsequent performance measures. When funding becomes available, this process allows IDOT to select those projects that provide the greatest benefit for the cost. The overall purpose of this process is to identify what factors are most critical in driving needs and may help IDOT move forward with targeted spot improvements, delivering a portion of the original project’s intended benefit for less money. Integrating livability into this process exhibits IDOT’s emphasis on livability as it relates to the future transportation network within the state.

3.1.3 SUSTAINABLE HIGHWAY CONSTRUCTION (ILLINOIS CENTER FOR TRANSPORTATION)

IDOT, through an intergovernmental agreement with the Illinois Center for Transportation (ICT), uses research to support green and other sustainable programs throughout the transportation industry. IDOT and ICT have worked together to identify and implement sustainable solutions in various areas of the Department, and strive to incorporate sustainable aspects in each research project.

One major focus of this research is the performance of asphalt pavements with varying levels of recycled materials, including recycled binders, to ensure that these recycled pavements are not only utilizing fewer virgin resources, but also are providing the performance that the public requires on the roadways. IDOT and ICT have also collaborated on efforts to protect the water supply, both during construction and through the appropriate use of salt during the snow and ice season. ICT has also worked with IDOT to identify types of native vegetation that can be used to prevent soil erosion, and the most effective species of trees to populate wetland mitigation projects. Projects on LED lighting, bus on shoulder programs and the use of wind energy to power rest areas are also in various stages of implementation. These projects assist in mitigating the environmental impacts of IDOT’s regular operating and maintenance of the transportation system. Mitigating environmental impacts enhances the livability of Illinois.

⁵ Transportation Investment Performance Selection presentation, May 17, 2017.



3.1.4 CONTEXT SENSITIVE SOLUTIONS (CSS)

The Federal Highway Administration defines CSS as a collaborative, interdisciplinary approach that provides all stakeholders the opportunity to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility.⁶ In much simpler terms, the transportation network should be designed in response to its surroundings – its context. Therefore, CSS represents flexibility in the application of design controls, guidelines and standards to design a facility that is safe and meets the needs of all users.

IDOT's CSS policy was adopted in 2005. Since then, IDOT has used the CSS approach on numerous projects. IDOT's BDE Manual (July 2015, Chapter 19) outlines the CSS process and policy.⁷ Stakeholder involvement is a critical element of any good CSS process and helps to ensure that local issues, such as preservation of scenic landscapes or historic neighborhoods and the ability to walk, bike and access public transit, are considered with more traditional measures such as safety and congestion. A CSS process helps IDOT identify and address these local concerns and is useful for all transportation projects to improve the quality of life (i.e., livability) for all stakeholders involved. It is a method of involving the public early and often in projects before decisions are made. The CSS process works as a partnership between IDOT and stakeholders (e.g., business owners, homeowners, commuters) to come up with working solutions to transportation needs on projects.

In terms of livability, CSS provides an opportunity for IDOT to gain an understanding from stakeholders regarding accessibility issues of adjacent facilities related to projects (e.g., hospitals, airports). In some instances, these facilities are impacted, and CSS is imperative to ensuring operations and accessibility will not be affected, or will be minimally affected, by construction.



CSS was used in the I-74 upgrade project through Peoria, and allowed The Sisters of the Third Order of St. Francis Medical Center to provide input on how construction would be conducted in an effort to keep operations at the hospital minimally impacted. This included discussion on ways to keep the emergency room entrance open and timing on medical helicopter landings to prevent construction debris impacts.

⁶ <https://www.ite.org/css/>, accessed September 22, 2017.

⁷ IDOT BDE Manual, Chapter 19 (July 2015).


3.2 IMPORTANCE OF LIVABILITY

The overall theme of what constitutes livability is challenging to define; however, transportation investments significantly impact livability within the state and its communities. Transportation projects in and of themselves are not economic development; rather, the communities and businesses supported by each project foster improved livability and drive economic growth.

There are often parallels between livability and the four other fundamental goals of the LRTP. The following details the importance of livability as it relates to the other LRTP goals:

- **Mobility** – IDOT’s overarching goal for the state’s transportation network is to move people and freight as efficiently as possible. Livability realizes the importance of all modes of transportation and the quality of space, urban or rural, that the transportation system supports.
- **Economic Growth** – Building and maintaining infrastructure can be cost-prohibitive, but by improving the efficiency and effectiveness of existing infrastructure, the livability results are realized. Strategic investments in infrastructure by IDOT increase the economic vitality and livability of the state.
- **Stewardship** – Effective transportation planning consists of informed choices regarding future planning. Comprehensive planning can build consensus about how IDOT manages transportation investments and the correlating livability changes.
- **Resilience** – By understanding elements of the system that are at risk to natural or man-made disasters, IDOT can improve the response to extreme conditions. In doing so, IDOT increases the livability of the transportation network and ensures the resiliency of the system.

3.3 OBJECTIVES AND STRATEGIES

IDOT has developed five objectives to guide its investment decisions that support livability and the environment. Each objective contains recommended actions, performance measures, data sources and implementation strategies that IDOT will pursue. The LRTP content as a whole will be considered guidance for programming decisions; however, each objective below also denotes some of the more specific recommended actions/strategies that will be used to guide programming decisions. These have been denoted with  in Section 2.2.3.

The five objectives are:



Enhance collaboration and coordination between IDOT and regional and local transportation agencies and adjoining states in transportation decision-making.



Support projects that enhance the livability of Illinois – making connections between people, and the places they need to go.



Enhance the effectiveness of the multimodal transportation system through better traveler information, utilizing technology where possible, to maximize efficiency of existing facilities and services.



Enhance existing policies and practices related to under-served populations so outreach and inclusion are effective and go beyond meeting the minimum federal requirements.



Utilize a sustainable approach to transportation planning, design, construction and operation which promotes environmental stewardship and energy conservation.

3.3.1 OBJECTIVES, STRATEGIES, PERFORMANCE MEASURES, AND IMPLEMENTATION

OBJECTIVE 1.

Enhance collaboration and coordination between IDOT and regional and local transportation agencies and adjoining states in transportation decision-making.

RECOMMENDED ACTIONS/STRATEGIES:

- **Collaborate with Metropolitan Planning Organizations (MPOs) and adjoining states to collectively benefit from joint multimodal planning efforts.**

IDOT should explore options for a symposium to discuss potential partnerships for projects. The focus of the symposium would be to ensure agencies responsible for planning utilize the 3C planning process (Continuing, Comprehensive, and Cooperative) in transportation planning. Within the state, an example of a multimodal planning effort is CMAP's Local Technical Assistance Program, which directs resources to communities pursuing planning work that helps implement CMAP's Comprehensive plan.

- **Enhance coordination with MPOs on freight and multimodal planning.**

IDOT should meet with MPOs to discuss specific freight and multimodal issues present within their boundaries. These meetings represent an opportunity to address freight needs and issues in a comprehensive fashion and integrate freight planning into the ongoing multimodal transportation planning process.

- **Seek partnerships with stakeholders to support the promotion of Illinois' intermodal system.**

IDOT should assist in facilitating and organizing meetings with public and private stakeholders, users, and groups to promote the strategic investments and efficiency improvements made in all modes of transportation (e.g. air, rail, and water). The Context Sensitive Solutions (IDOT policy since 2005) concept aims to achieve a transportation network that is sensitive to and inclusive of all users, and should be one of IDOT's fundamental conduits to achieve this action.



PERFORMANCE MEASURES:

- ✓ **Number of executed planning intergovernmental agreements**
An intergovernmental agreement (IGA) is any agreement that involves or is made between two or more governments in cooperation to solve problems of mutual concern. IDOT uses IGAs for cooperative planning, development review, or resource sharing between or among a broad range of governmental entities. IDOT will support any IGA that affords local government's opportunities to collaborate, pool resources, and improve the provision of services to citizens.
- ✓ **Participation in industry stakeholder/user groups**
Focusing on the needs of stakeholders is an integral part of IDOT. Engaging with stakeholders helps IDOT to understand their needs and identify opportunities and challenges. Federal legislation does not require IDOT to start or maintain stakeholder groups; however, IDOT has found that such groups provide valuable input as a part of the state (or regional) public involvement process for transportation planning and programming, including for example the Illinois State Freight Advisory Council, Inter-Agency Bikeways Coordinating Working Group, Bike Illinois, Illinois Public Transportation Association, etc. IDOT will determine participation in stakeholder events via the review of meeting attendance records.
- ✓ **Number of agencies utilizing a performance-based project selection process**
IDOT will provide support to agencies (i.e. MPOs) utilizing a performance-based project selection process that supports different types of projects designed to implement the objectives in this LRTP; then uses specific data driven evaluation criteria for each project type that are used for scoring and ranking projects.


IMPLEMENTATION:


- ✓ **Develop consistent outreach and engagement strategies for IDOT Districts to utilize on projects.**
Lead: IDOT Office of Communications, IDOT Bureau of Design & Environment, IDOT Bureau of Local Roads and Streets
Partners: IDOT Districts
- ✓ **Facilitate and encourage the collaboration and development of a waterways forum to provide guidance to IDOT on ports and waterways issues.**
Lead: IDOT Office of Planning and Programming
Partners: IDOT Office of Legislative Affairs
- ✓ **Encourage performance based project selections processes for local project selection.**
Lead: IDOT Office of Planning and Programming
Partners: IDOT Bureau of Local Roads and Streets
- ✓ **Strengthen the existing Illinois State Freight Advisory Council (ISFAC).**
Lead: IDOT Office of Planning and Programming, ISFAC
Partners: Public/Private Sector Representatives, Freight Stakeholders


OBJECTIVE 2.

Support projects that enhance the livability of Illinois – making connections between people, and the places they need to go.

**RECOMMENDED ACTIONS/STRATEGIES:**

- **Use performance-based project selection tool results to prioritize projects for funding.** 

IDOT should explore what level of funding would be required to achieve a certain level of performance for indicators of livability. The relevance of the level is an important consideration in IDOT projects, given limited funding and the need to prioritize investments.
- **Develop livability measures to prioritize non-highway projects for funding.** 

The Performance Based Project Selection tool is focused on capacity improvements for highway projects. IDOT should work to develop investment and policy priorities by identifying data on performance, along with public involvement and policy considerations, for how to prioritize non-highway projects. This process of prioritization should account for performance outcomes using analytical methods, as well as policy priorities, and concerns such as equity, environmental justice, and other considerations.
- **Consider enhanced multimodal connectivity when prioritizing projects for funding.** 

Using a strategic prioritization and programming process allows IDOT to prioritize projects based on quantitative data addressing factors such as congestion and safety; however, it also accounts for assigning higher prioritization of projects with multimodal characteristics. This process would ensure IDOT projects and plans are developed, and funding is programmed in a consistent, goal-oriented manner.

PERFORMANCE MEASURES:

- ✓ **Percent of funding spent on projects that provide access to multimodal choices**
Utilizing the For the Record (FTR), IDOT's annual report of the awards and obligations made for the Annual Illinois Highway Improvement Program, IDOT will be able to determine the percentage of funding spent on projects providing multimodal choices. IDOT will establish a percentage applicable to funding spent on projects providing multimodal choices on a regional level.
- ✓ **Number of multimodal connections within Illinois**
Key regional areas in the state need to be connected to each other through multiple modes of transportation. A successful performance measure to evaluate multimodal connectivity will measure access and amenities. Therefore, IDOT will review its existing network inventory and quantify multimodal connections, and then work to increase connections to underserved populations by linking services to existing services at connecting points.
- ✓ **Number of livability measures used to prioritize projects**
Performance measures are often used to assess the impacts of projects after they have been implemented; however, this measure aims to evaluate and prioritize projects *before* they take effect. IDOT will support a set of livability criteria used to evaluate projects and should be used to determine which project best support the livability goals and should therefore be prioritized for implementation.

IMPLEMENTATION:


- ✓ **Develop sustainability/livability “best practices” to be verified in the preliminary phases of project development.**
Lead: IDOT Bureau of Design and Environment
Partners: IDOT Bureau of Local Roads and Streets
- ✓ **Promote sustainable multimodal transportation services, in an effort to reduce single occupancy vehicle (SOV) travel.**
Lead: IDOT Office Planning and Programming, IDOT Bureau of Operations
Partners: IDOT Office of Communications, IDOT Office of Highways Project Implementation
- ✓ **Refine and review livability data and performance management for project prioritization.**
Lead: IDOT Office Planning and Programming
Partners: Local Stakeholders

OBJECTIVE 3.

Enhance the effectiveness of the multimodal transportation system through better traveler information, utilizing technology where possible, to maximize efficiency of existing facilities and services.



RECOMMENDED ACTIONS/STRATEGIES:

- **Better understand the need for and implement Intelligent Transportation Systems (ITS) statewide and invest in proven ITS strategies.** 

IDOT is currently updating the Illinois Statewide Architecture and Strategic Plan, which is a review of the current use of ITS in Illinois and provides recommendations to the integration and deployment of ITS. IDOT should support the overall advancement of ITS through investments in major initiatives, such as Connection Protection, which provides real-time transit information to predict whether a user will make their connection.

- **Provide General Transit Feed Specification (GTFS) data to Google for inclusion in Google Maps.**

Google Maps is a readily used geographic locator service that helps people plan trips; whereby, GTFS data is public transit agency data published to allow the public to view public transportation schedules with associated geographic information. IDOT should assist transit agencies in publishing GTFS data into Google applications, as well as other wayfinding applications.

- **Improve transit ridership levels and riders' experiences through the use of rider-oriented technology.**

An example of rider-oriented technology includes a rider mobile application which identifies transit schedules, stops, services in an area, and schedules demand response trips. IDOT should assist in implementing this technology with the State's transit agencies. For example, the Regional Transportation Authority's (RTA) service boards (CTA, Pace, and Metra) have mobile and computer applications; specifically, Ventra, which helps manage and pay fares for many of the public transit providers in the RTA boundary.

- **Improve transit connectivity between service areas and providers.** 

Stakeholders consistently request a convenient and seamless transit system. To that end, IDOT should work with transit providers to identify areas that lack services, and determine potential extensions of services to provide improved connectivity.

- **Promote multimodal transportation through the use of social media.**

Transportation agencies are increasing their use of social media, which calls for a better understanding of social media usage characteristics. IDOT should engage in interactive communications through social media to improve the overall image of the agency. Additionally, IDOT should collaborate with transportation agencies throughout the state, and utilize their social media platforms to further promote projects, endeavors, and other notable moments.

- **Centralize incident notification, to provide timely incident information to travelers.**

IDOT should review the specialized needs for incident reporting and management required to efficiently capture, track, and automatically notify transportation users to relevant incidents and accidents. The review should be regionally and statewide, and result in an effort that could be implemented statewide, to assist in achieving IDOT's goal of zero fatalities.

- **Implement ITS architecture.** 

IDOT should provide a framework to guide planning and interoperable deployment of ITS architecture and identify an interface for standardization. An example of efficient, interoperable, and cost-effective ITS architecture are regional traffic management centers (TMCs). Currently within Illinois, Lake, DuPage, and Kane counties, along with the City of Chicago, implement and operate arterial TMCs with great success. Since many major routes in the areas covered by the TMCs are under state jurisdiction, IDOT's cooperation has been critical to the success of the TMCs.

PERFORMANCE MEASURES:

- ✓ **Compare changes in vehicle speed, crash rates and traffic volumes from the incorporation of ITS in major metro areas**
The focus of this measure, once reported, will be the accountability assessment of each IDOT District's ITS program. Data collected to assess this measure will include: IDOT traffic data and IDOT crash data. This performance measure is intended to assist IDOT in meeting the goals and objectives established by IDOT's ITS program.
- ✓ **Percentage of transit vehicles and routes supplying General Transit Feed Specification (GTFS) data**
The successful use of this performance measure is linked to the availability of technical resources to generate the measure. IDOT will work with state transit providers to evaluate vehicle GTFS data at the regional and statewide levels. Analysis of this GTFS data can unveil important transit performance profiles such as ridership-by-hour, by-trip, and by-stop, trip activity ranking, stop activity ranking, and activity-by-period.
- ✓ **Creation or expansion of mobility management projects**
IDOT will support state and local transportation agencies to utilize their data to effectively create or expand mobility management projects (i.e. Transit Riders Information Project in Champaign County, Illinois). A mobility management project manages a coordinated community-wide transportation service network comprised of the operations and infrastructures of multiple trip providers in partnership with each other. IDOT will track the number of or expansion of mobility management projects.
- ✓ **Create a quantitative and comprehensive framework to enhance transportation agency social media programs**
Social media permeates every aspect of modern life, and transportation is no exception. Most transportation agencies currently measure social media effectiveness through built-in metrics such as the number of friends and followers or "likes", or by using third-party applications such as Google analytics. However, collecting this information does not provide meaningful analysis as to the understanding of the social media's true effectiveness. IDOT will work with state and local transportation agency data (e.g. CTA) to quantify and provide effective information to enhance their social media programs.
- ✓ **Review typical incident management times**
As an agency, IDOT is focused on receiving the most benefit of its existing infrastructure and resources, and key to accomplishing this is understanding the performance of the system. Through the review of IDOT's incident reports, IDOT will determine the performance of incident management (e.g. notification, response, duration, clearance and recovery time) and develop a plan for moving forward with enhancing any issues identified in incident management.

IMPLEMENTATION:

- ✓ **Utilize the state ITS Architecture and Strategic Plan Update to align funding for planning and installation of ITS strategies and improvement of existing facilities.**
Lead: IDOT Office of Planning and Programming, IDOT Bureau of Operations
Partners: MPOs, Counties, Municipalities
- ✓ **Collaborate planning efforts between transit providers to increase service connectivity, technological improvements for riders and overall promotion of multimodal transportation.**
Lead: IDOT Office of Intermodal Project Implementation, IDOT Bureau of Planning
Partners: Regional Transportation Authority, Counties, Transit Providers
- ✓ **Review current incident management and notification systems and align funding for improvements.**
Lead: IDOT Bureau of Operations, IDOT Office of Communications
Partners: IDOT Bureau of Safety Programs and Engineering
- ✓ **Support transit agencies providing GTFS data to Google.**
Lead: IDOT Office of Intermodal Project Implementation
Partners: IDOT Bureau of Planning
- ✓ **Research how social media can be used to enhance the transportation system and provide best practices/resources to local transportation agencies.**
Lead: IDOT Office of Communications
Partners: IDOT Bureau of Local Roads and Streets, IDOT Office of Planning and Programming

OBJECTIVE 4.

Enhance existing policies and practices related to under-served populations so outreach and inclusion are effective and go beyond meeting the minimum federal requirements.

**RECOMMENDED ACTIONS/STRATEGIES:**

- **Review and enhance existing IDOT policies and practices related to environmental justice and under-served populations.**

Many government agencies are responsible for engaging environmental justice and under-served populations. IDOT should look to best practices and compare existing efforts to ensure the state is utilizing the best methods available and the use of best practices are supported by IDOT policy.

- **Improve effectiveness in receiving feedback from under-served populations during the transportation planning and design process.**

IDOT should ensure there are multiple avenues for receiving public feedback on projects - from digital engagement to public meetings, and postcards to paper comment forms - IDOT should make it easy and simple for the public to tell them what they think about projects and policies. This also means project information should be conveyed in meaningful, non-technical ways so everyone understands the project scope and how it will support the local community.

- **Identify unique ways to mitigate impacts of new projects on under-served populations.**

Effective outreach with under-served populations will not only provide opportunities to participate, but will increase understanding of differing perspectives related to community-specific issues and concerns not previously known, identify potential controversies and issues, and develop viable solutions to mitigate adverse impacts and to address existing transportation problems. Strategies, methods, approaches, and techniques that can be used to reach members of under-served populations may include: utilizing existing stakeholder networks, specialized meetings, and incorporating best practices that go beyond traditional methods and techniques.

- **Explore options to implement supply and demand based pricing to support additional service or infrastructure.** 

An efficient and flexible transportation system that meets mobility demands is essential for the health of Illinois' economy and standard of living. IDOT should provide transportation alternatives for under-served populations through assessing gaps in service where demand is high, adjusting pricing based on ability to pay for services and building infrastructure in areas that have grown.

- **Develop a public involvement manual for use on transportation projects.**

IDOT will work with the Office of Communications, Bureau of Outreach, BDE, Highways, and the District offices to develop public engagement standards and templates that will make it easier for District staff to have the support needed to effectively engage the public throughout the life of a project.

PERFORMANCE MEASURES:

- ✓ **Number of policies and practices changed to better accommodate under-served populations**
Communities across the state have expressed the need to provide access and enhanced livability to all areas of the state. Under-served populations should be considered in the planning phases of all transportation projects – both roads and transit. IDOT should ensure outreach strategies and methods afford everyone the opportunity to be engaged at the outset of transportation planning initiatives. IDOT’s Bureau of Design and Environment (BDE) manages the statewide design manual for projects (<https://idot.illinois.gov/Assets/uploads/files/Doing-Business/Manuals-Guides-&-Handbooks/Highways/Design-and-Environment/Illinois%20BDE%20Manual.pdf>). The BDE Manual provides uniform policies for IDOT and consultant personnel, to prepare the required documentation in the development of a typical roadway project.
- ✓ **Number of outreach opportunities specifically directed at under-served populations**
As the state develops its plans and programs, staff should work to seek out under-served populations and find opportunities to engage local stakeholders.
- ✓ **Number and availability of affordable alternative modes of transport for under-served populations**
The number and availability of alternative modes of transportation is largely governed by local agencies and is directly impacted by the resources available to them. To achieve this recommended strategy, IDOT will have to work with partner agencies to align funding, policies, and performance standards to support the recommended actions, and also coordinate on tracking the number and availability. To this point, IDOT tracks project information through numerous documents and databases including, the Statewide Transportation Improvement Program (STIP) Multi-Year Multi-Modal Program (MYP), and For the Record. The MPOs develop a Transportation Improvement Program which includes the projects identified in the MYP, including any changes to projects

IMPLEMENTATION:

- ✓ **Facilitate communication and promote collaboration between under-served population areas and transit agencies and organizations via the state MPOs.**
Lead: IDOT Office of Planning and Programming
Partners: MPOs, Transit Agencies, Municipalities, Under-Served Population Stakeholders
- ✓ **Update IDOT policies and practices related to environmental justice and under-served populations.**
Lead: IDOT Bureau of Design and Environment, IDOT Office of Communications, IDOT Office of Planning and Programming
Partners: Environmental Justice Population Organizations, MPOs, Under-Served Population Stakeholders
- ✓ **Identify ways to add equity considerations into project prioritization processes.**
Lead: IDOT Office of Planning and Programming
Partners: IDOT Bureau of Design and Environment

OBJECTIVE 5.

Utilize a sustainable approach to transportation planning, design, construction and operation which promotes environmental stewardship and energy conservation.

**RECOMMENDED ACTIONS/STRATEGIES:**

- **Incorporate and support sustainable technology in operations of current and future IDOT assets, including multimodal transportation services.** 

IDOT is committed to incorporating sustainable solutions in the operation of their transportation system. Current solutions implemented by IDOT include the Curb Your Car Week event and International Walk to School Day, or the use of hybrid and alternative fuel vehicles in the IDOT vehicle fleet. Currently, IDOT recognizes and records the use of sustainable practices statewide; and, IDOT should continue this effort as sustainable practices become more typical. IDOT should perform an audit of its facilities, focusing on utility usage/consumption, waste management, and recycle practices. The results of the audit should be used as guidance to determine areas for improvement.

- **Increase the use of recycled materials in construction projects.**

Research has proven that recycled pavements offer the same durability as non-recycled pavements. That said, IDOT currently uses recycled pavements in projects, when applicable, and should continue to be used and improved upon. Furthermore, IDOT should continue to identify and develop methods for quality assurance of pavement aggregate substitutes that do not lessen the durability or performance of pavement.

- **Reduce emissions by implementing performance-based project selection.** 

IDOT should develop guidance for integrating reducing emissions into a performance-based funding approach, taking into consideration appropriate emission reduction performance measures, and using performance measures to support investment choices and enhance decision-making. The guidance should include consideration of reducing greenhouse gas emission reduction.

- **Support reduction in the use of single occupancy vehicles (SOVs).** 

The fundamental strategy to reduce travel demand, or to redistribute this demand is through the use of Transportation Demand Management (TDM). TDMs aim to alleviate highway congestion and traveler delay, which can be achieved through a variety of strategies, including: carpooling/ride shares, traveler information, and pedestrian/bike facilities. IDOT should determine which metropolitan areas would benefit from the promotion of TDM programs.

- **Realize positive air quality gains and reduced energy consumption with efficient passenger and freight operations.**

Anticipated development of the Illinois transportation network will inevitably lead to the increase of transportation energy consumption and emissions, resulting in a substantial growth on transportation energy demand. IDOT needs to evaluate current and forecasted emission and energy consumption estimates in operating the transportation system to determine areas where improvements can be made such as making passenger and freight operations more efficient.

PERFORMANCE MEASURES:✓ **Number of sustainability audits of IDOT facilities**

In an effort to be fiscally and environmentally responsible, IDOT is continuously working to improve its sustainability practices. IDOT will conduct sustainability audits of its facilities to assess the application of sustainability practices (e.g. pounds of recycled materials per year) at each facility. In support of this, IDOT will determine a reasonable number of energy efficient facilities to be constructed or rehabilitated annually, to assist in reaching overall sustainability goals and objectives.

✓ **Percentage of recycled materials used on construction projects**

The problems associated with the environmentally safe and efficient disposal of waste continue to grow. The highway construction industry can effectively recycle large quantities of the construction material used in transportation projects. IDOT-Construction Services will calculate the percentage of recycled materials used on construction projects within a one-year time period.

✓ **Percent of non-SOV travel***

Percent of Non-SOV travel, where SOV stands for single-occupancy vehicle, refers to a measure of the single occupancy vehicle mode share. FHWA provides data options for use in calculating this federally required performance measure, per MAP-21. IDOT Office of Planning and Programming will calculate the percentage of non-SOV travel on a two year basis.

✓ **Total emissions reductions of Congestion Mitigation and Air Quality (CMAQ) funded projects***

Total emissions reduction refers to the 2-year and 4-year cumulative reported emission reductions for all projects funded by CMAQ funds, of each criteria pollutant and applicable precursors under the CMAQ program for which the area is in non-attainment or maintenance. IDOT will utilize data from the non-attainment areas within Illinois to calculate emissions reductions on CMAQ projects, which is federally required per MAP-21.

✓ **Percent of per capita emissions of greenhouse gases reduced**

IDOT is taking an innovative approach to reviewing transportation air quality. Traditional transportation air quality analysis has only considered localized impacts of short-lived pollutants, but using the FHWA's Infrastructure Carbon Estimator (ICE) tool, IDOT will analyze air quality impacts in a non-traditional manner. FHWA's ICE is a spreadsheet tool that estimates the lifecycle energy and greenhouse gas emissions from the construction and maintenance of transportation facilities. This tool will help IDOT in its planning and pre-engineering analysis of projects.

✓ **Number of energy/fuel-efficient vehicles added annually to IDOT and other fleets statewide**

In an effort to decrease transportation costs for IDOT vehicles, more fuel-efficient vehicles have been introduced to the statewide fleet in recent years. IDOT will track the number of fuel-efficient vehicles utilizing IDOT fleet data that is updated on a regular basis.

✓ **Number of TDM efforts implemented and coordinated in Illinois.**

Transportation Demand Management (TDM) refers to various strategies that change travel behavior in order to increase transport system efficiency and achieve specific planning objectives. There are numerous TDM strategies using various approaches to influence travel decisions. Some improve transportation options; some provide incentives to change travel mode, time, or destination; others improve land use accessibility; some involve transport policy reforms and new programs

that provide a foundation for TDM. IDOT’s Office of Planning and Programming will work with regional transit and transportation agencies (e.g. MPOs) to determine estimates for TDM efforts currently incorporated in their transportation network. Specifically, IDOT will study opportunities for collaboration and enhancement of the TDMs used throughout the state.

*Federally required performance measures per MAP-21.

IMPLEMENTATION:

- ✓ **Incorporate sustainable solutions in the operation of IDOT’s Transportation System.**
Lead: IDOT Office of Highway Project Implementation
Partners: IDOT Office of Planning and Programming
- ✓ **Facilitate the use of sustainable technology and update requirements on usage of the technology in existing and future IDOT guidance (i.e. plans and manuals).**
Lead: Office of Highway Project Implementation
Partners: Local Stakeholders, IDOT Bureau of Local Roads and Streets
- ✓ **Enhance Performance Based Project Selection by consideration of metrics for air quality improvement.**
Lead: IDOT Bureau of Programming
Partners: IDOT Bureau of Planning
- ✓ **Increase the use of I-LAST during project development.**
Lead: IDOT Bureau of Design and Environment
Partners: IDOT Office of Planning and Programming

3.3.2 IMPLEMENTATION

Implementation of livability into transportation is fundamentally focused on improving system performance and coordinating funding efforts. Aligning transportation investments with the livability goal to achieve these practical improvements and efforts is essential to the success of this LRTP. The following (**Table 3.1**), delineated into four categories, are proposed to successfully implement the overarching livability goal and its five objectives:

TABLE 3.1: Implementation Actions

| IMPLEMENTATION ACTION | LEAD EQUITY | PARTNER(S) |
|---|--|--|
| Collaboration/Outreach & Engagement | | |
| Develop consistent outreach and engagement strategies for IDOT Districts to utilize on projects. | IDOT Office of Communications, IDOT Bureau of Design and Environment, IDOT Bureau of Local Roads and Streets | IDOT Districts |
| Encourage performance based project selection processes for local project selection. | IDOT Office of Planning and Programming | IDOT Bureau of Local Roads and Streets |
| Develop sustainability/livability “best practices” to be verified in the preliminary phases of project development. | IDOT Bureau of Design and Environment | IDOT Bureau of Local Roads and Streets |
| Refine and review livability data and performance management for project prioritization. | IDOT Office of Planning and Programming | Local Stakeholders |

| IMPLEMENTATION ACTION | LEAD EQUITY | PARTNER(S) |
|--|---|--|
| Support transit agencies providing GTFS data to Google. | IDOT Office of Intermodal Project Implementation | IDOT Bureau of Planning |
| Facilitate communication and promote collaboration between under-served population areas and transit agencies and organizations via the state MPOs. | IDOT Office of Planning and Programming | MPOs, Transit Agencies, Municipalities, Under-Served Population Stakeholders |
| Update IDOT policies and practices related to environmental justice and under-served populations. | IDOT Bureau of Design and Environment, IDOT Office of Communications, IDOT Office of Planning and Programming | Environmental Justice Population Organizations, MPOs, Under-Served Population Stakeholders |
| Plans/Guidance | | |
| Facilitate and encourage the collaboration and development of a waterways forum to provide guidance to IDOT on ports and waterways issues. | IDOT Office of Planning and Programming | IDOT Office of Legislative Affairs |
| Research how social media can be used to enhance the transportation system and provide best practices/resources to local transportation agencies. | IDOT Office of Communications | IDOT Bureau of Local Roads and Streets, IDOT Office of Planning and Programming |
| Incorporate sustainable solutions in the operation of IDOT's Transportation System. | IDOT Office of Highway Project Implementation | IDOT Office of Planning and Programming |
| Identify ways to add equity considerations into the project prioritization processes. | IDOT Office of Planning and Programming | IDOT Bureau of Design and Environment |
| Facilitate the use of sustainable technology and update requirements on usage of the technology in existing and future IDOT guidance (i.e. plans and manuals). | Office of Highway Project Implementation | Local Stakeholders, IDOT Bureau of Local Roads and Streets |
| Enhance Performance Based Project Selection by consideration of metrics for air quality improvement. | IDOT Bureau of Programming | IDOT Bureau of Planning |
| Increase the use of I-LAST during project development. | IDOT Bureau of Design and Environment | IDOT Office of Planning and Programming |
| Multimodal | | |
| Strengthen the existing Illinois State Freight Advisory Council (ISFAC). | IDOT Office of Planning and Programming, ISFAC | Public/Private Sector Representatives, Freight Stakeholders |
| Promote sustainable multimodal transportation services, in an effort to reduce single occupancy vehicle (SOV) travel. | IDOT Office of Planning and Programming, IDOT Bureau of Operations | IDOT Office of Communications, IDOT Office of Highways Project Implementation |
| Collaborate planning efforts between transit providers to increase service connectivity, technological improvements for riders and overall promotion of multimodal transportation. | IDOT Office of Intermodal Project Implementation, IDOT Bureau of Planning | Regional Transportation Authority, Counties, Transit Providers |
| Funding | | |
| Utilize the state ITS Architecture and Strategic Plan Update to align funding for planning and installation of ITS strategies and improvement of existing facilities. | IDOT Office of Planning and Programming, IDOT Bureau of Operations | MPOs, Counties, Municipalities |
| Review current incident management and notification systems and align funding for improvements. | IDOT Bureau of Operations, IDOT Office of Communications | IDOT Bureau of Safety Programs and Engineering |