

WORKING COLLABORATIVELY WITH IDOT



ACTIVE
TRANSPORTATION
ALLIANCE

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INTRODUCTION

WHAT ARE COMPLETE STREETS?

For more than a half a century, our roads have been designed to move large numbers of cars as quickly as possible, often sacrificing the safety and convenience of those who walk, take public transit, or bicycle. Our car-centric streets have had unintended but harmful consequences on our health, communities, the environment, and local businesses.

There's a growing movement across the country to reverse that trend, and to design and construct streets that balance the needs of all users of the public right-of-way. The term "Complete Streets" was coined to describe street networks that are designed for everyone, no matter their age, ability, or mode of travel.

Complete Streets policies are policies enacted by a village, town, city, county, transportation agency, or other entity to systematically incorporate Complete Streets into roadway design, construction, and maintenance. When a municipality repaves a road, for example, the jurisdiction may be able to add a bicycle lane without tacking on significant cost or delays. A Complete Streets policy says almost any type of roadway project is an opportunity to build or enhance a network. Over 1,000 local, state, and regional agencies have adopted Complete Streets policies.¹

Municipalities with Complete Streets policies are not required to add bicycle lanes to every street. (That would be expensive and impractical!) The Complete Streets approach challenges roadway designers to consider the places that each roadway connects and the people who move along it. Every street is considered for its contribution to the overall network and evaluated on how it can provide safe access to the places that community members need and want to go. Complete Streets transforms a municipality's everyday decision-making to incorporate bicycle, pedestrian, and transit access elements as an essential part of the road network.

OVERVIEW OF RESOURCE

This resource was designed as an introductory guide to provide municipalities with guidance and effective strategies for working with the Illinois Department of Transportation (IDOT) to integrate a Complete Streets approach into roadway projects. IDOT designs and constructs roadway projects throughout the state and plays a major role in bringing many roadway projects to reality. The Department also owns critical thoroughfares through many Illinois communities and has approval authority over any projects on those routes. In addition, projects that use state or federal funding sources must be approved by IDOT before construction can begin. This guide explains the key parts of Illinois' Complete Streets policy and the IDOT project development process to assist communities in transforming their streets. Strategies to effectively collaborate with IDOT on making Complete Streets a reality follow this general overview.

For the purposes of simplicity, this resource will focus on projects on existing roadways as the typical user working to implement Complete Streets will generally be focusing on improving the existing network. The guidance in this resource will still be useful to planners and engineers developing projects where right-of-way acquisition is involved, but those steps are not covered here.

To avoid confusion, this resource will refer to all non-access-controlled roads as streets, roads, or roadways. IDOT designates freeways or expressways as access-controlled highways because their access is controlled by interchanges or other features. The IDOT manuals, on the other hand, refer to all roadways as "highways."

¹National Complete Streets Coalition, 2017

WHY ARE COMPLETE STREETS IMPORTANT?

Complete Streets bring many types of benefits to a community:

Equity

There are many reasons for not driving: many Americans are too young to legally drive and some older adults can't safely drive due to diminished visual or other abilities. Some Americans have a disability that prevents them from driving. Others can't afford to own and maintain a car. Roughly a quarter of households that are at or below the poverty level don't own a car, compared to less than two percent of households earning over \$100,000.² Complete Streets gives people who can't or don't drive safe and convenient access to jobs, schools, grocery stores, clinics, and other places that they need to go.

Safety

In 2015, about 35,000 Americans died in motor vehicle crashes, and 2.4 million people were injured. Illinois lost 998 people to car crashes that year, an average of almost three people per day.³ Nationwide, people on foot are overrepresented in motor vehicle deaths, comprising 13% of deaths from collisions, despite accounting for 10.5% of all trips.⁴

Street design has a major impact on roadway safety. A study of 15 lane reduction projects (a.k.a. road diets) in Iowa found a 34% reduction in crashes that resulted in injury.⁵ Medians, speed bumps, and other traffic-calming infrastructure can reduce the number of pedestrian injuries by up to 15%.⁶ Raised medians and pedestrian refuge areas at marked crosswalks see a 46% reduction in crashes involving pedestrians.⁷ The Federal Highway Administration (FHWA) began widely encouraging the use of these improvements, especially at the state level, in their 2012 Proven Safety Countermeasures memo.⁸

Health

People who walk, bicycle, and take public transit integrate more activity into their daily lives. People who commute by public transit, for example, take 30% more steps per day than those that rely on cars. This simple, daily act can help reduce a person's vulnerability to chronic diseases such as diabetes, cardiovascular disease, and some types of cancer. Studies have shown that people who actively commute, for instance, reduce their risk for cardiovascular disease by 11%.⁹



A raised pedestrian median can drastically improve safety by shortening crossing distances and improving the visibility of the pedestrians. Credit: City of Urbana

Economy

By creating safe and reliable transportation options, Complete Streets can save families significant expense.

The average American family spends 19% of their income on transportation costs, the second largest expenditure after housing. In auto-dependent areas, the average transportation costs can rise to 25% of a families' budget.¹⁰

Households that live closer to public transit spend less on transportation. In Chicagoland, people living within a ½ mile of a rail station save \$2,272 on transportation costs compared to households living further from a rail station.¹¹ This can shift dollars spent on transportation to other critical needs, such as food and health care, and provide more disposable income for families. Recreational trails and walkable "Main Street" areas can also attract public and private investment, as well

² National Highway Traffic Safety Administration, 2014

³ National Highway Traffic Safety Administration, 2016

⁴ Centers for Disease Control and Prevention, 2013

⁵ Federal Highway Administration, date unknown

⁶ Wilson, A., 2012

⁷ Redman, T., date unknown

⁸ Federal Highway Administration, 2012

⁹ Active Living Research, 2016

¹⁰ Livability Initiative, Federal Highway Administration, U.S. Department of Transportation, date unknown

¹¹ Gray, Y. M., 2013

as tourism dollars. Complete Streets can also reduce maintenance costs and costly roadway expansions, and lessen the need for expensive paratransit services by providing safe access to transit systems.

Environment

By providing an alternative to driving solo by car, Complete Streets can reduce greenhouse gas emissions, thereby reducing air pollution in communities and our contributions to climate change. Reductions in particulate matter, ozone, and other pollutants also contribute to human health. On days with less air pollution, children and adults with asthma, respiratory, and cardiovascular diseases make fewer emergency room visits and experience fewer life-threatening events.

Streets can also reduce maintenance costs and costly roadway expansions, and lessen the need for expensive paratransit services by providing safe access to transit systems.^{12 13}

Community

In some communities, the street network comprises more than 40% of public land. By calming traffic and reclaiming the public right of way for all users, Complete Streets help create public spaces that foster social connections between neighbors and community members. The Complete Streets philosophy says that roadway construction, expansion, and maintenance should be thoughtfully considered for all its impacts on a community, not simply on vehicle traffic.



Parklets, small parks that are made from one or more parking spaces, are one way of repurposing the public right of way to promote local business, calm traffic, and create gathering spots for people of all ages to socialize.
Credit: People St, LADOT via Flickr / Creative Commons TO

► LEARN MORE about the benefits of Complete Streets, please see the Active Transportation Alliance's series of factsheets: atpolicy.org/resources/making-the-case-for-complete-streets/

¹² Friedman et al., 2001

¹³ Pope 3rd, 2000

COMPLETE STREETS IN ILLINOIS

HISTORY

The first signs of a Complete Streets policy in Illinois appeared in the 1990s. IDOT introduced a bicycle and pedestrian accommodation policy into the Bureau of Design and Environment (BDE) Manual, which applies to state-owned roads. The policy included both bicycle and pedestrian-specific “warrants” to trigger accommodation, as well as details on what those accommodations should be. That means that in specific circumstances, IDOT must consider providing a bicycle facility on a state road if a few key criteria were met.

There were four types of bicycle facilities covered under IDOT’s early policy: paved shoulders on rural roads, wide outside curb lanes, bicycle lanes, or sidepaths on urban roads. At the time, the design guide did not include a bicycle facility selection table to provide guidance on which type of facility was appropriate in different contexts. For two decades, for instance, wide outside curb lanes were the most frequently added urban and suburban bicycle facility, typically created by widening a 12-foot lane to 13 feet. The wide outside lanes are more



Sidepaths (top left), paved shoulders (top right), wide-outside curb lanes (bottom left) and bicycle lanes (bottom right) were some of the bicycle facilities available in Illinois in the 1990s.

Credit: Active Transportation Alliance (top and bottom right) <https://www.pedbikeimages.org/> Libby Thomas (bottom left)

appropriate for low-speed, highly-constrained roads, but failed to provide safe passage on many 45-miles per hour speed limit suburban-style arterials.

In the late 2000s, bicycle advocates began a concerted push for a Complete Streets legislation. In addition to the need to find safer treatments on urban roads, advocates were spurred by the death of Nate Oglesby, a 17-year-old from Cary, Illinois, who died while trying to cross the Fox River Bridge on his bicycle.¹⁴

In the summer of 2007, the state legislature passed Public Act 95-665, Illinois' Complete Streets law. Public Act 95-665 mandates that the Complete Streets approach be applied in urban areas during any "construction, reconstruction, or other changes of any State transportation facility".¹⁵ Since the passage of the statewide law, 35 municipalities in Illinois have also adopted Complete Streets policies, enshrining the core principle of designing roadways for all users—not just motorists—at the local level.¹⁶

Despite the passage of Public Act 95-665 in 2007, many roadways in Illinois do not yet safely and comfortably accommodate all users. To understand why, it is helpful to examine the law as it is written and to better understand how it is implemented through the project development process.

ILLINOIS' COMPLETE STREETS LAW

So what does the state's 2007 Complete Streets policy say? Here are several important details from the law that impact the construction of roadways that accommodate all users:

- Illinois' policy applies to streets in or within a mile of "Urban Areas". Urban Areas is a definition created by the Federal Highway Administration (FHWA) for areas with a population of over 5,000 people.¹⁷ In other words, it applies to all but the most rural areas of the state.
- Like most Complete Streets policies, the statute includes exceptions for when the policy doesn't apply. These include: safety, excessive cost, or the absence of need. IDOT's Secretary has the final say about exceptions to the policy. The Secretary is rarely, if ever, called on to make these rulings.
- Unlike many policies across the country, the state's Complete Streets law does not apply to regular road-resurfacing projects. However, Complete Streets-

supportive improvements like road diets, where one or more vehicle lanes are removed to improve safety, are allowed under Illinois' policy and in the BDE and where "local support is evident". In some instances, bicycle lanes can be added without reducing the number of lanes. In Carbondale, U.S. Route 51 and Illinois Route 13 both gained bicycle lanes during resurfacing projects because there was extra width in the roadway.

(605 ILCS 5/4-220)

Sec. 4-220. Bicycle and pedestrian ways.

(a) Bicycle and pedestrian ways shall be given full consideration in the planning and development of transportation facilities, including the incorporation of such ways into State plans and programs.

(b) In or within one mile of an urban area, bicycle and pedestrian ways shall be established in conjunction with the construction, reconstruction, or other change of any State transportation facility except:

(1) in pavement resurfacing projects that do not widen the existing traveled way or do not provide stabilized shoulders; or

(2) where approved by the Secretary of Transportation based upon documented safety issues, excessive cost or absence of need.

(c) Bicycle and pedestrian ways may be included in pavement resurfacing projects when local support is evident or bicycling and walking accommodations can be added within the overall scope of the original roadwork.

(d) The Department shall establish design and construction standards for bicycle and pedestrian ways. Beginning July 1, 2007, this Section shall apply to planning and training purposes only. Beginning July 1, 2008, this Section shall apply to construction projects.

(Source: P.A. 95-665, eff. 10-10-07.)

Image 4: Public Act 95-665, Illinois' Complete Streets Policy¹⁸

As written, the Complete Streets law allows IDOT to exercise judgment when determining whether pedestrian and bicycle accommodations or facilities are required as part of a project. While this latitude is certainly reasonable—one wouldn't add bike lanes to an inter-urban expressway, for example—the potential for interpretation is quite broad.

The law lays out several ways for local municipalities to interact with IDOT to implement Complete Streets. Section C of the Complete Streets law, for example, provides opportunities for municipalities to request multimodal improvements as part of a resurfacing project. Local involvement in the roadway design process can result in beneficial changes.

¹⁴ Neufeld, R., 2008

¹⁵ Public Act 095-0665, 2007¹⁶ Gray, Y. M., 2013

¹⁶ National Complete Streets Coalition, 2016.

¹⁷ FHWA, 2017

¹⁸ Public Act 095-0665, 2007

It is important to note that the law itself outlines a minimum level of accommodation, empowering IDOT and municipalities to implement and advocate for street designs that go above and beyond the letter of the law.

Like many Complete Streets policies, the law does not provide language to incentivize the proactive planning and construction of Complete Streets on the state or local levels, but it does give people biking and walking a seat at the table and a say in project implementation.

By and large, the Complete Streets law guides work performed by IDOT on roadways throughout the state and work on roadways owned by IDOT. The framework that guides the implementation of Complete Streets throughout Illinois extends past the letter of the law itself. This framework is realized in IDOT's project development process and the manuals and guides in which that process is laid out.

The IDOT project delivery process for all roadway improvements using state and federal funds or local funds on state routes or the National Highway System—Complete Streets and otherwise—is laid out in the Bureau of Design and Environment (BDE) manual. In order to implement the State's Complete Streets law, revisions to Chapter 17 of the BDE manual were finalized in 2010. These revisions included substantial improvements over previous design guidance. For instance, a new bikeway selection table (Figure 17-2.A in the BDE) specified the appropriate bicycle accommodation for different road types, traffic levels, and vehicle speeds. Depending on the context, the selection table calls for off-road sidepaths, on-road paved shoulders, bicycle lanes, or wide curb lanes. No substantial changes were made to the design guidance for pedestrian facilities.

IDOT's 2010 revisions were released two years before the American Association of State Highway and Transportation Officials (AASHTO) released their updated bicycle guidelines. Since 2010, the Federal Highway Administration (FHWA) and other organizations such as the National Association of City Transportation Officials (NACTO) have disseminated and published a wealth of guidance on pedestrian, bicycle, and transit facilities. Changes have also been made to the Manual of Uniform Traffic Control Devices (MUTCD) since 2010. While IDOT is currently revising the BDE, the current version does not include the latest industry design guidance on best practices for infrastructure that considers and safely accommodates all users.

This gap between IDOT's policies and national best practices creates a space where municipalities may have room to negotiate for accommodations that go beyond the minimum required by the state. Later sections of this resource include more information about this flexibility and how to take advantage of it.

Before discussing strategies to use this guidance to advance Complete Streets, however, it is necessary to provide a general introduction to IDOT's project delivery process so that implementers understand IDOT's approach to approving a project for construction, and how to best collaborate with IDOT once a project has been kicked off.

LOCALLY-LED VS. IDOT-LED PROJECTS

All roadway projects using federal or state funding sources or projects prepared for and by the State must pass through IDOT's project delivery process. These projects fall under the two general types—locally-led projects and IDOT-led projects.

IDOT has provided two design manuals to guide the Department and municipalities through this process. The first, IDOT's Bureau of Design and Environment (BDE) Manual lays out the general project delivery process—the steps that must be taken to bring a project from concept to construction—as well as the design criteria for projects on the state-owned network. The BDE Manual is over 4,000 pages long and covers projects of all scales, from freeway projects on new right of way to roadway resurfacing. The second, the Bureau of Local Roads and Streets (BLRS) Manual, supplements the BDE with information directed at local agencies implementing projects and provides design criteria for projects off the state-owned network.

► **TO ACCESS** the BDE and the BLRS, please use the following links:

BDE: <https://tinyurl.com/kxa4cfz>

BLRS: <https://tinyurl.com/kaovszc>

The funding source and the ownership of the impacted roadway determine which of the manuals will be used for locally-led and IDOT-led projects. The flowchart in **Figure 1** illustrates which design guides are used and when:

- On local agency-owned roads, the designs for road projects using federal, state, or Motor Fuel Tax (MFT) dollars must be approved by IDOT and use the BLRS guidelines and the forms and processes specified therein.
- Local projects on or crossing State-owned routes must also use the BDE guidelines, forms, and processes where State routes are impacted.

- On IDOT-owned roads, IDOT is responsible for designing or approving project plans for construction, expansion, or maintenance projects such as repaving. These projects use the guidelines, forms, and processes in the BDE.

PROJECTS ON EXISTING ALIGNMENTS

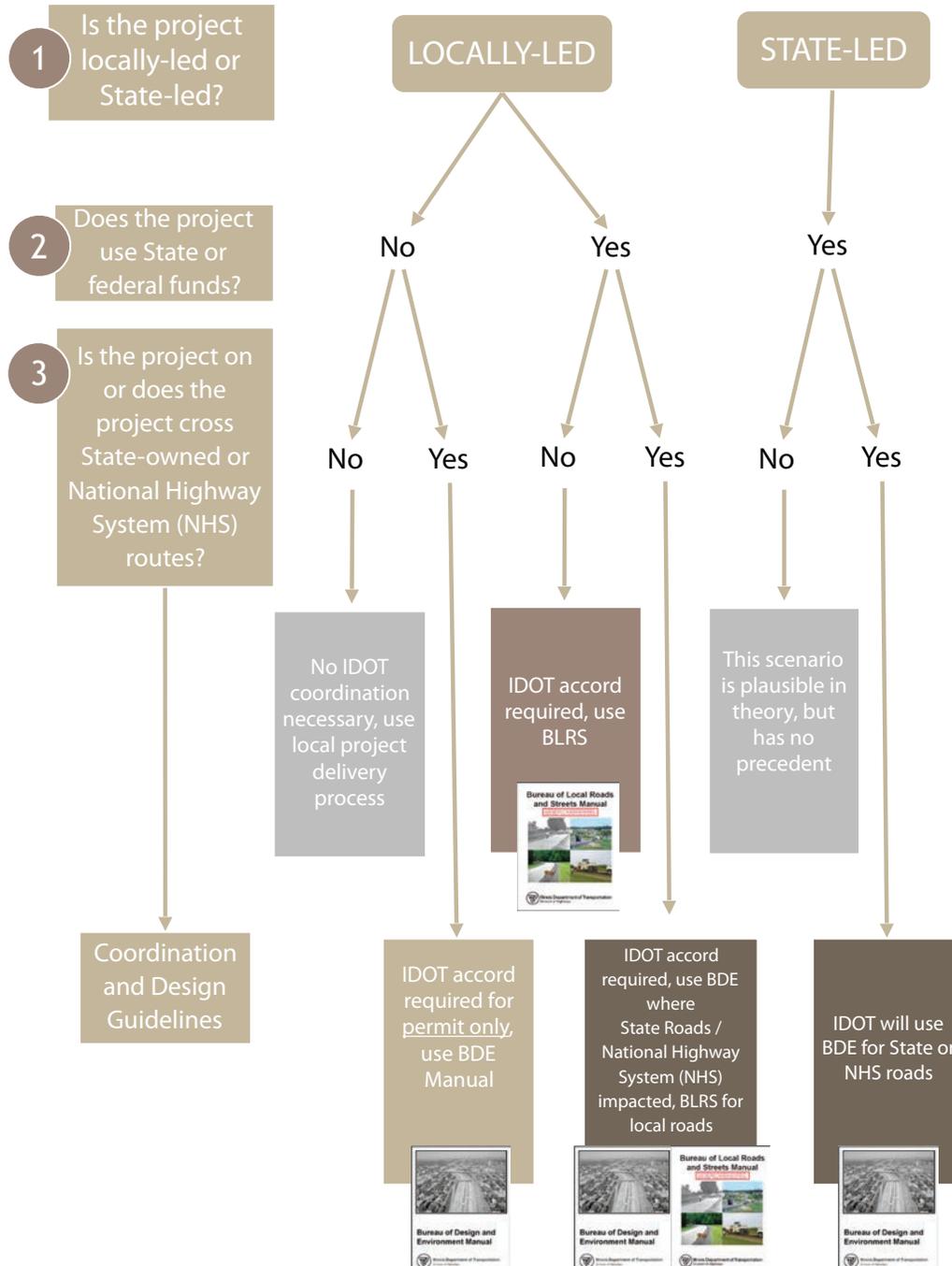


Figure 1: Flowchart to identify when to use the BDE or BLRS design guides.

THE IDOT PROJECT DELIVERY PROCESS

After projects are selected and initiated, the IDOT project delivery process can be broken down into three general stages:

- Phase I – Preliminary Engineering and Environmental Studies
- Phase II – Contract Plan Preparation
- Phase III – Construction

Local implementers should take time to understand the agency's project delivery process and potential impacts on Complete Streets facilities well before project selection. The flowchart in Figure 2 outlines the project delivery process for road work on an existing street and highlights opportunities to influence the inclusion and types of pedestrian and bicycle facilities in a project.

The IDOT district offices are responsible for managing and reviewing smaller state-led projects in their coverage area. The IDOT central office in Springfield may be involved at some stages of a project for various reasons, but the districts are the first point of contact for municipalities and local agencies. Each District hosts a monthly or bi-monthly meeting with the central office and FHWA to present projects at key checkpoints.

Municipalities can find out what projects have been selected by IDOT by checking IDOT's website for projects in their Multi-Year Improvement Program, which includes upcoming IDOT projects for the next six years.

► **FOR MORE INFO** on future IDOT projects, please see this link: <https://tinyurl.com/p2c25qy>

A map of the projects is also available here: gettingaroundillinois.com/gai.htm?mt=myp

PHASE I – ENGINEERING AND ENVIRONMENTAL STUDIES

Phase I of the Project Delivery Process is set up to ensure that a given project is compliant with Federal Highway Administration (FHWA) and National Environmental Policy Act (NEPA) policies and requirements as well as state and local goals and objectives. During Phase I, the scope of the project is determined, public engagement is conducted when necessary, and any preliminary engineering studies are conducted. Requests for anticipated design exceptions will also be made at this stage, although unanticipated design exceptions can arise in Phase II.

This resource provides an overview of Phase I in order to highlight opportunities for municipalities to integrate walking and bicycling facilities. It is not, however, meant to provide a comprehensive tutorial of the Phase I process. IDOT offers classes explaining Phase I engineering process, and municipalities and other stakeholders can also work with their local Bureau of Local Roads representative to develop a robust understanding of this project phase.

Project Scope

Project scope, public involvement, social, economic, and environmental impacts, and general design considerations are documented during Phase I, although they may be decided prior to project initiation during a local agency's project selection process. The project scope identified during Phase I includes the project's purpose and need, project goals, and general design type, such as a highway widening or a road diet accomplished through resurfacing.

It is critical that municipalities work closely with IDOT during Phase I to develop project scopes that meet the

IDOT PROJECTS DELIVERY PROCESS FOR WORK ON EXISTING NETWORK

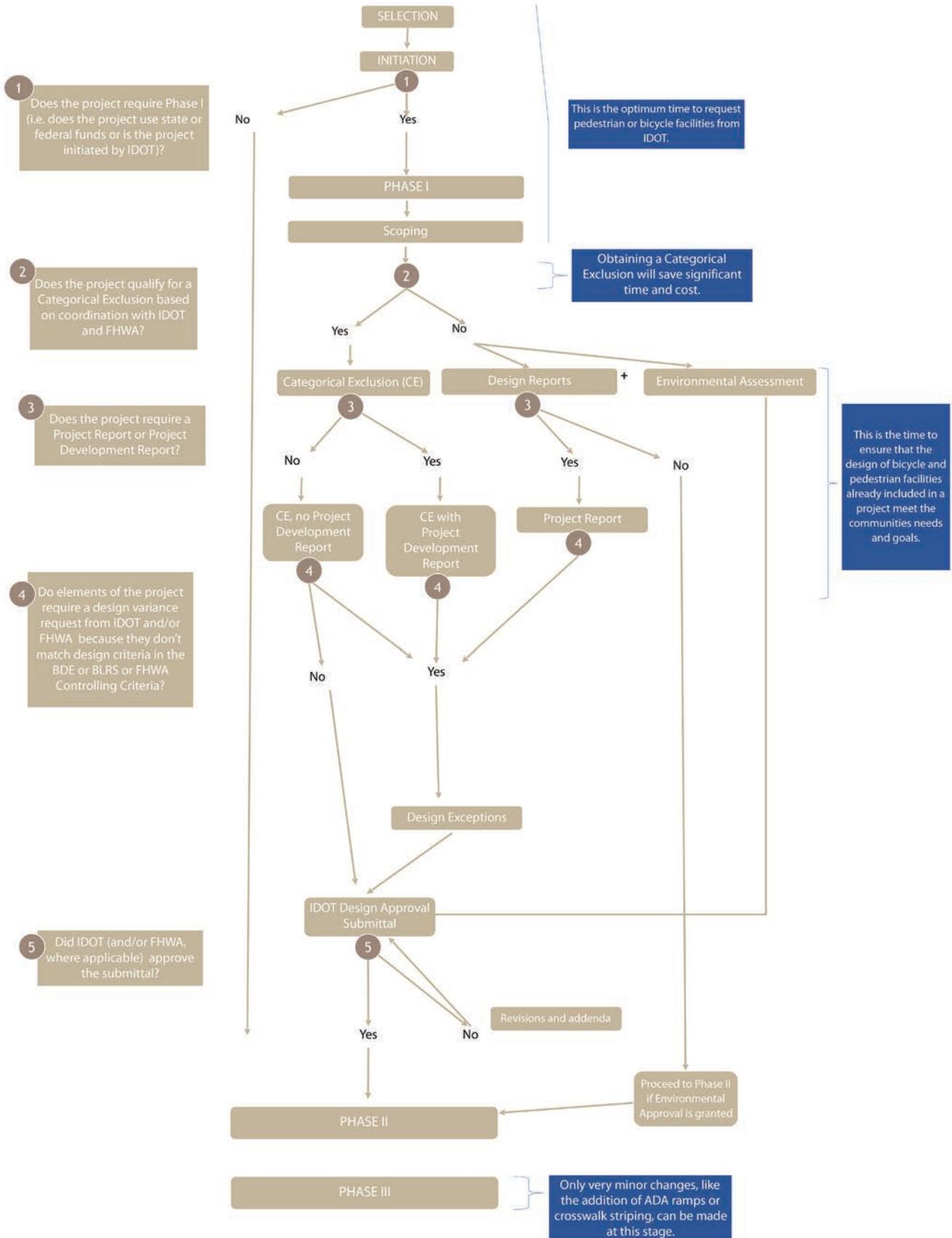


Figure 2: IDOT Project Delivery Process for Work on Existing Network. The blue boxes indicate opportunities to add or improve on Complete Streets designs. For a full version of this flowchart, with descriptions of each step, please see atpolicy.org/resources/implementation-steps/idot-toolkit.

needs of all roadway users. If a municipality wants to request a reduction to the number of lanes (i.e. a road diet), for example, the lane reduction has the best chance of being included in the project scope before the project moves further into Phase I. Road diets are sometimes introduced when design alternatives are being discussed, but this pathway is not as common. Efforts to modify project scope at a later stage may delay the project or lead to additional costs.

The scope of projects using state or federal funds are discussed during coordination meetings that include IDOT and FHWA and any municipalities that are leading such projects.

Engineering and Environmental Studies

A project may require varying degrees of study and analysis due to the scope and scale of the proposed improvements. Specific requirements are determined on a project-by-project basis. IDOT, and in some cases the FHWA, will decide what steps need to be fulfilled and what information needs to be provided.

Projects fall into one of two general tracks. In the first, simplified track, the engineering and environmental studies are combined and processed as **Categorical Exclusions (CE)**. Low impact projects typically qualify for CE processing. In the second, more complete track, the engineering and environmental studies are conducted separately, and generally require significant effort. These projects tend to be more complex and have the potential for significant environmental impacts.

In general, whether or not a project is processed as either a combined study or separate studies, much of the planning and design process occurs during Phase I. Nearly all public and agency coordination is conducted during Phase I. Any commitments arrived at through the public outreach process or while coordinating with other parties—such as relocating an impacted utility, construction detours, or schedule restrictions—are laid out in the Phase I documentation. Project design criteria are determined during Phase I based on the level of study required. For instance, a relatively simple roadway project on existing right-of-way involving restriping and curb-and-gutter work would likely qualify as a 3R project. “3R” is shorthand for restoration, rehabilitation, and resurfacing projects. Most bicycle and pedestrian projects would fall under the 3R category. Projects like a streetscape or new off-street trails, on the other hand,

would be considered reconstruction projects, and not be considered 3R. 3R projects use design criteria specific to 3R projects, and due to the relatively simple nature of the project, the 3R criteria are more flexible than new roadway construction.

Preliminary review of environmental impacts and/or design work by specific IDOT sections or bureaus may be required during Phase I. For example, projects on or crossing state roadways will be reviewed by the local district’s Geometrics unit and Bureau of Traffic for compliance with the BDE.

Categorical Exclusions (CE) – Combined Studies

Projects that do not involve federal aid (such as state- and locally-funded projects) and federally funded projects determined to have “No Significant Impacts” by IDOT and FHWA may qualify for CE status. CE status can be highly beneficial for the rapid and cost effective implementation of Complete Streets improvements.

What projects are eligible for Categorical Exclusion? FHWA defines CE projects as those that do not have significant impacts on land use; planned growth; natural, cultural, and historic resources; air and water quality; noise; travel patterns; or require the relocation of people and businesses or have significant environmental impacts. Most improvements focused on providing improved facilities for people walking and biking will qualify for CE designation.

Taking the example of a road diet, if the proposing agency can demonstrate that the project will not impact wetlands, will not generate special wastes due to the lack of contaminated soils within the project area, and is feasible given measured Average Daily Traffic (ADT), IDOT’s Environmental Staff and/or FHWA may rule the project as a Categorical Exclusion.

Categorical Exclusions fall under two types:

- State Approved Categorical Exclusions (formerly CE I)
- Federally Approved Categorical Exclusions (formerly CE II)

Broadly speaking, Federally Approved CE projects have more impacts and require federal oversight, while State Approved CE projects can be approved by IDOT on behalf of FHWA. All Federally Approved CE projects and certain State Approved CE projects must be accompanied by a Project Development Report or PDR. Criteria determining CE type are described in section 23-1.04 of the BDE Manual.

State Approved CE projects meeting certain criteria, such as those most relevant to implementing Complete Streets shown below, do not need a PDR. They may require a smaller scale report or memo, such as a Technical memo or Abbreviated Project Report. The full list of projects that can be processed without a Report is found in section 12-3.10 of the BDE Manual. This determination is made at coordination meetings with IDOT and FHWA. Here are some examples of projects that do not require a PDR:

- Traffic signal modifications and installation of new signals
- Signing
- Pavement markings not affecting the number of through lanes
- Curb and/or gutter repairs and construction of curb ramps for the disabled
- Lighting and electrical work
- Landscaping
- Activities included in the highway safety plan

The flowchart found in Figure 19-1A in the Bureau of Local Roads and Streets Manual, reproduced in **Figure 3**, illustrates when a report is needed.

Regardless of how a project is processed, a good deal of design work must be performed to produce roadway sections or configurations, design variances, capacity and safety analyses, public documentation, signal warrants, and cost estimates needed for the report. Projects without PDRs must be brought to a basic level of design to justify moving on to Phase II.

In practice, the PDR is accompanied by a preliminary set of plans showing the proposed improvement that is then developed to the level of detail needed for construction during Phase II.

In general, CE projects do not typically require major environmental studies. Typically, municipalities will need to document that the facilities will not have negative impacts on local environmental conditions or cultural resources as part of the combined study.

During discussion of a project's CE status, IDOT or FHWA may determine that the project may have potential or anticipated impacts and merit additional documentation. In these cases, an Environmental Assessment (EA) or Environmental Impact Study (EIS) will be pursued. The EA is discussed in detail in Chapter 24 of the BDE Manual.

Engineering & Environmental Studies – Separate Studies

Most projects initiated by local agencies will typically qualify for CE status. Projects led by IDOT, however, have the potential to require separate engineering and environmental studies as they tend to be larger in scale and impact. Local agencies should be aware of the general format of these studies in order to best interact with IDOT on state-led projects, but are unlikely to produce them directly.

Engineering and Environmental studies include activities such as preliminary design, environmental analyses, public outreach, and documenting safety issues that would be addressed through the proposed project.

There are five general levels of engineering study. Minor Design Studies apply to retrofits and rehabilitations of existing streets. The other types of engineering studies are: Corridor Studies, Major Design Studies, Combined Design Studies, and Feasibility Studies. These design studies typically pertain to highway projects, such as the construction of a new highway corridor or the construction of a new bridge and are very time and resource intensive. Please see BDE 11-1.01(c) for more details.

If a local agency or IDOT is unable to obtain CE status for a bicycle and pedestrian-focused roadway retrofit project, a Minor Design Study, which generally applies to intersection improvements and 3R (restoration, rehabilitation, and resurfacing) projects will likely be required. This may occur when a project is quite straight-forward from an engineering perspective but has environmental impacts that need to be assessed and documented. More significant engineering studies may be encountered as municipalities pursue Complete Streets in collaboration with IDOT.

Minor Design Studies may require the preparation of a Project Report. The Project Report requirement may be waived for simpler projects on existing right-of-way without significant environmental impacts. Only certain projects are eligible for this expedited processing as described in the previous section on Categorical Exclusions.

Federal and state environmental reporting, documentation, and mitigation requirements are addressed in the Environmental Study, discussed in detail in BDE Manual Chapters 22-24. Like Engineering Studies, the level of preparation required depends on the project scope and anticipated impacts.

Lower impact projects will be expected to produce an Engineering Assessment (EA). The EA is discussed in detail in Chapter 24 of the BDE Manual.

Projects found to have major environmental impacts require the preparation of an Environmental Impact Study (EIS), laid out in detail in Chapter 25 of the BDE Manual. It is very unlikely that a bicycle- or pedestrian-focused project will require an EIS. To rise to the level of an EIS, a project must be “likely to cause significant impacts on the environment.” (40 CFR 1502.3). An EIS is more typical of a highway on a new alignment. IDOT will be required to hold extensive local agency coordination and public outreach to complete the EIS.

The projects that typically qualify for Minor Studies normally move quickly through Phase II after the approval of the Engineering and Environmental studies because the work has almost nearly been completed in Phase I.

► **FOR MORE INFO** on coordinating design with IDOT, please see the *LOCALLY LED PROJECTS* section of this resource on page 18.

Two parts of the BDE, Part II - Project Development and Part III - Environmental Procedures of the BDE Manual. Chapter 3, section 4 of the BDE also provide an overview of this process.

Design Exceptions

The BDE and BLRS Manuals provide design criteria used to guide IDOT and local agencies in designing streets and highways. Projects that move through the IDOT project delivery process are reviewed based on these guidelines. There is additional flexibility in project design as municipalities and the Department can request exceptions to the design requirements set forth in the BLRS and BDE manuals (see sections 27-2 and 31-7, respectively). Similar to variances for zoning codes, IDOT exceptions allow municipalities to request adjustments to the project in order to meet on-the-ground realities. IDOT must approve these variances during Phase I.

There are two levels of exceptions based on the significance of the request:

- **Level One Design Exceptions** are approved by IDOT and FHWA in certain scenarios and include “the most critical parts of a highway’s safety and overall serviceability”. This includes changes to lane widths, intersection site distance, and level of service for cars and trucks.

- **Level Two Design Exceptions** are approved by the local IDOT district office, and cover less significant elements of the road design. This includes features like sidewalk design, medians, and lighting.

Municipalities can request variances in two ways: through district project coordination meetings with FHWA, or in writing. The exception approval form must be submitted along with a description of the proposed element compared to the applicable standard. Justification for the change is also required.

► **FOR MORE INFO** on the exception process and the exception approval form, please see this link:

<https://tinyurl.com/lmaqov9>

Approvals

Phase I is complete once the separate Engineering and Environmental Studies have been approved by IDOT and/or FHWA. For a Categorical Exclusion project, Phase I is closed once the Categorical Exclusion forms and Project Report, or other memos or reports, are approved by IDOT.

If the scope of a project or impacts change during subsequent phases, Phase I may need to be revisited and re-approved. The documentation required for re-approval is determined through communication with IDOT and/or FHWA. Phase II plans will not be approved if Phase I has not been approved.

While Phase I can be revisited during Phase II, it may be difficult to affect changes if a project is to remain on budget and on time. For this reason, it is important that the needs and comfort of all roadway users are considered during Phase I, regardless of whether the Illinois Complete Streets law requires it.

► **FOR MORE INFO** on Phase I of the project delivery process, please see Chapter 10 of the BLRS Manual or Chapter 11 of the BDE.

PHASE II: PLAN PREPARATION

Phase II encompasses the activities that are required to produce a buildable project. This includes detailed plans, specifications and special provisions to guide the contractor in procuring and billing the correct materials, equipment, and labor to allow accurate preconstruction estimates for bid pricing.

The scope of Phase II is defined by the approved Phase I documents. Preliminary plans are frequently prepared during Phase I and then finalized through Phase II. Any

commitments made in Phase I must be reflected in the Phase II plans.

The Phase II process provides the review that IDOT finds necessary to check the plans with all relevant bureaus, sections, and agencies. This process is described in Chapter 63 of the BDE Manual, with more information on the individual Phase II elements provided in Chapters 64-66.

The plans, specifications, and estimates move through three reviews during Phase II: preliminary review, pre-final review, and final review. The designer is expected to respond to comments raised by IDOT in order to proceed to the next stage. IDOT reviewers will check to be sure that Phase II plans conform with the approved Phase I.

For the most part, the critical design items are determined during Phase I. For a road diet project, for example, the specific segments where through lanes must be removed to fit bicycle facilities and the new dimensions of the travel lanes would be determined during Phase I. The Phase II plans would provide further detail on the spacing of required signage and the type of thermoplastic needed to stripe the improvements, commensurate with statewide and local standards.

There are some rare cases where facilities like bicycle lanes could be introduced during Phase II. As mentioned earlier in the resource, resurfacing projects usually skip Phase I, and if the number of traffic lanes isn't being changed, then bicycle lanes could be introduced during Phase II. In Carbondale, U.S. Route 51 and Illinois Route 13 both gained bicycle lanes during resurfacing projects because there was extra width in the roadway.

Phase II can be completed relatively quickly for pedestrian- and bicycle-focused projects if there are no changes to the Phase I scope. Projects with more complex scopes, such as those that impact bridge structures and require the construction of new utilities, will spend much longer in Phase II.

Once IDOT (and FHWA where applicable) has provided and approved the final review, the project can be let for construction—either by IDOT or the local agency.

► **FOR MORE INFO** *on the Phase II process, please see Chapter 11 of the BLRS Manual.*

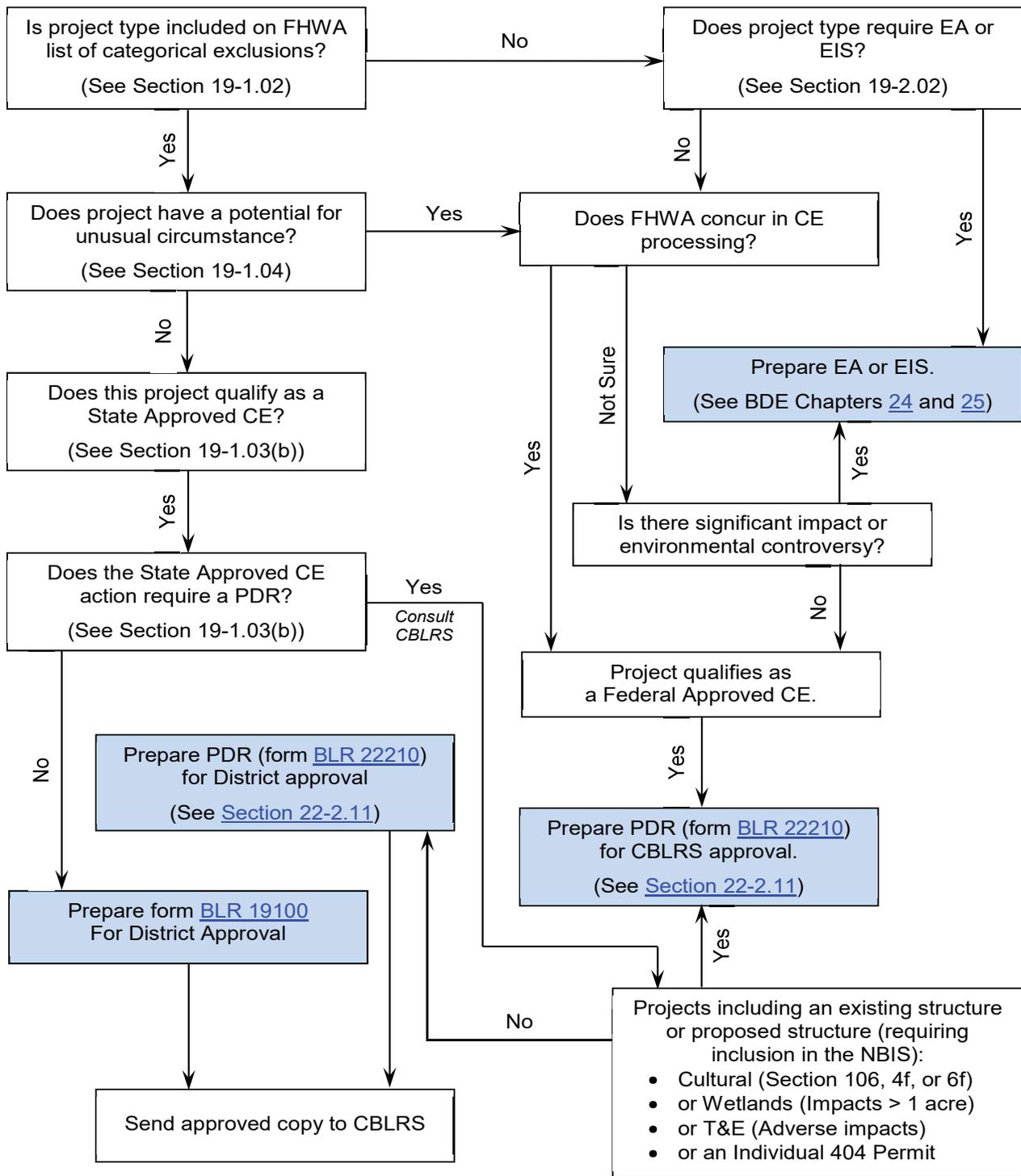
PHASE III: CONSTRUCTION

Project construction follows approval of plans produced during Phase II. Project construction covers the construction contract award, execution, documentation, and project close-out.

By the time project construction begins only minor changes can be made to a project, and they must be germane to the scope set in Phase I. Resident Field Engineers can issue Change Orders to accommodate in-field conditions or oversights that require additional work or different pay items, though as the cost of the changes increases, the authority to approve them is subject to a hierarchy and growing scrutiny for justification.

Recall that the project scope is set in Phase I. Any changes to the project that impact the project scope, such as attempting to add a bicycle lane if one wasn't already included in the Phase I documentation, will not be feasible during construction. Minor modifications, such as ADA ramps and crosswalk striping, that do not change the project scope and that do not require substantial modification of designs or line item quantities may be possible pending discussion with the District construction engineer. In this case, local municipalities who missed opportunities to add facilities earlier will probably have to foot the bill for the changes through an agreement with IDOT, if there is flexibility in the construction schedule to allow for the changes.

► **FOR MORE INFO** *on the construction process, please see Chapters 12 & 13 of the BLRS Manual, and the IDOT Standards and Specification for Road and Bridge Construction Manual.*



PROCESSING CE PROJECTS

Figure 19-1A

Figure 3: Processing Categorical Exclusion Projects, BLRS Manual, Figure 19-1A

IMPLEMENTING COMPLETE STREETS THROUGH LOCALLY-LED PROJECTS

Local municipalities and agencies receive federal and state funds through formula programs or competitive grants in order to maintain and improve local transportation networks. As discussed in the previous section, these types of funds must move through IDOT's project delivery process.

While relatively uncommon, locals may also pursue improvements to State-owned roadways using local funds. These projects do not follow the IDOT project delivery process but must be coordinated with IDOT, including design approval based on BDE Manual standards in order to obtain a highway permit. Locals are required to provide pedestrian and bicycle accommodations on state roads in accordance with the statewide Complete Streets law.

The first part of this section will provide guidance on how to ensure timely processing of Complete Streets projects that must be coordinated with IDOT and the FHWA through the project delivery process. Tips on securing design exceptions to implement emerging best practices and improve multi-modal accessibility and safety are provided to aid local agencies in this process. The second part of this section discusses project funding sources.

Working with IDOT to implement Complete Streets improvements through state-led projects is discussed in the later section, "Implementing Complete Streets through IDOT-Led Projects."

OPTIMIZING THE IDOT PROJECT DELIVERY PROCESS

Looking back to the description of IDOT's Project Delivery Process, a significant amount of time and cost may be saved by successfully qualifying for Categorical Exclusions. There are several additional considerations that can save further time in review and lead to quicker project implementation as well as approval of more advanced Complete Streets-supportive designs.

The following discussion provides best practices that municipalities can use during pre-scoping/project selection, during project scoping, and during Phase I Engineering and Environmental studies.

Project Selection and Beyond: Communication

Local planners and engineers should begin meeting with IDOT prior to formal project scoping and even before project selection while considering how and where to allocate funding.

As a first step, local agencies should identify the primary point of contact with their IDOT District office, typically a Bureau of Local Roads engineer. Before contacting IDOT, it is a good idea to develop some desired improvements and corridor limits and potential funding sources. These scenarios can be brought to IDOT for a frank, up-front discussion of the processing requirements that IDOT is likely to set during Phase I. IDOT can help determine

whether a project will qualify for a Categorical Exclusion and what type of report will be necessary based on the proposed scope. The local agency can then determine whether the project is feasible given the timeline and resources.

During project development, clarity and regularity are critical in communications with IDOT. Although a project team may be embroiled in design details and on-the-ground conditions, IDOT reviewers will not have such an intimate familiarity. Documentation, such as meeting minutes, and coordination materials should be created with the understanding that external reviewers may not have the same information about the local context as the project team.

If project needs change, it is important to alert IDOT to potential modifications in order to determine whether the project can proceed as planned. By doing so, there will be fewer delays and better shared understanding of project purpose and next steps.

Project Selection/Scoping: Strategically Consolidate Multi-Location Projects

Depending on funding availability, a local agency may have a number of Complete Streets improvements that can be combined into a single design package and constructed under one contract. This approach reduces repetitious contracting and approvals. Instead of requiring four introductory meetings, a project to stripe bike lanes on four corridors can go to IDOT in one package. Not all projects, however, are well suited for this approach. Combining projects into single bid packages may allow for more competitive bidding on the contract and reductions to the project cost.

Considerations for multi-location projects include:

1. **Funding source:** all project locations should be funded using the same funding source to avoid issues with billing and fulfilling grant award requirements.
2. **Scope and impacts:** all project locations should have roughly the same scope and impacts determining environmental and engineering processing status. If one location requires significantly more work or changes the overall project processing requirements implementation of the improvements for the other locations will be delayed.
3. **Stakeholder coordination:** depending on local familiarity with proposed improvements and potential tradeoffs, the level of coordination and education necessary to attain community support at each location

may vary. When packaging projects, group locations in consideration of buy-in so that all locations are on the same timeline.

4. **Roadway jurisdiction:** projects on local roadways and projects on state jurisdiction roadways follow different design criteria and involve separate paths through review. Where possible, group projects along or at roadway jurisdiction lines. If using local funding for a package, minimize work along or intersecting state roadways or National Highway System (NHS) routes if no other coordination with IDOT or FHWA is required.

Feasibility of project grouping will need to be discussed with IDOT and FHWA in the majority of situations after the funding has been awarded.

Project Scoping: Explain Project Alignment with Shared Goals

Local agencies share many common, high-level stated goals with the State and USDOT, including the implementation of Complete Streets and improving safety on Illinois' roadways. At the outset of coordination with the State and FHWA, it is valuable to communicate how the proposed improvements will contribute to these goals so that the purpose and need of the project is tangible to all.

While there are many existing programs on the state and federal level that may be referenced, multimodal safety is perhaps the most critical touchstone.

On the federal level, the USDOT kicked off the Road to Zero initiative in October of 2016 with the goal to eliminate deaths caused by traffic crashes by 2046. This builds on the 2016 rulemaking under the FAST Act which set six severe crash reduction performance measures for State DOTs. One of these metrics covers bicycle and pedestrian fatalities.¹⁹

The Illinois Department of Transportation has also set a goal to eliminate traffic fatalities in Illinois under its "Driving Zero Fatalities to a Reality" commitment.²⁰ IDOT's Strategic Highway Safety Plan is oriented to meet the state goal and the federal performance measures.

Safe, multimodal facilities are critical to attaining the fatality reductions necessary to make progress on the goals set out at the federal and state levels. Local agencies can reference the empirically proven crash modification factors published on the FHWA's Crash Modification Factor Clearinghouse when implementing Complete Streets improvements such as road diets. When the need for a design exception arises, the local

agency can make a well-reasoned argument for why the exception is necessary to further shared goals.

In Phase I reports and coordination with IDOT, local agencies should indicate how a proposed project relates to the implementation of local plans. IDOT will always send an initial letter to stakeholders requesting information about pedestrian and bicycle plans. In District 1, Ride Illinois and the Chicago Metropolitan Agency for Planning (CMAP) are copied on this letter. CMAP usually responds to this letter based on their library of pedestrian and bicycle plans. Municipalities can help ensure that IDOT is aware of their plans by sending finalized plans to their local council of government and CMAP.

► **FOR MORE INFO** on *Complete Streets-related goals and resources published by the FHWA, please visit: fhwa.dot.gov/environment/bicycle_pedestrian/. The *Crash Modification Factor Clearinghouse* is at: cmfclearinghouse.org/*

Project Scoping

Project scopes cannot be changed mid-stream without cost and delay. Therefore, it is critical to have a well-crafted scope. Depending on the source of funding, this scope might need to be laid out prior to project initiation, such as in a competitive grant application.

When writing a scope, a balance must be struck between laying out the kinds of improvements that the project will cover in clear terms so that there is no miscommunication during project processing, and avoiding over-specificity that may limit leeway to adapt designs to on-the-ground conditions discovered during Phase I or Phase II.

Keep in mind that the project scope provides a general overview of the project in response to the project's purpose and need and to assist IDOT and FHWA in determining proper processing. The purpose of the scope is not to spell out the exact placement of each proposed feature or the specific treatments.

For example, a good scope for a road diet project with bike lanes and improved pedestrian crossing treatments, might read:

“road diet including through-lane reduction, new on-street bike lanes, signal modernization and upgrades, curb-and gutter work, ADA ramps, pavement markings, signage, installation of curb

extensions and median pedestrian refuge islands, and resurfacing.”

This scope lets IDOT and FHWA know that the project will entail changes to the typical section of the roadway, modifications to signals, and the general types of work that a contractor will be expected to perform. It also provides context for environmental processing. Without this information, more detail may need to be provided during coordination meetings, costing time, or may lead to differences in understanding of project impacts.

Too much additional information might lead to issues in design. For instance, if the above scope specified the number of refuge islands and their location (e.g. “three refuge islands at the intersections of Central and Elm, Central and Wood, and Central and Lake”) the scope would need to be modified if one of the islands had to be moved due to a utility conflict. Likewise, if signal work was specified as “addition of pedestrian countdown timers” the scope might not capture the need to upgrade an out-of-date signal controller.

During project scoping, close attention should be paid to the desired outcome. Is the intent of the project to institute the first round of bike lanes in a community to build familiarity? Quick delivery should therefore be a priority. The scope will need to be set accordingly to achieve the desired processing.

Project Scoping/Phase I: Aim for Categorical Exclusions without Project Development Report (PDR)

Complete Streets-supportive improvements typically meet the criteria of a Categorical Exclusion (CE). Significant time and cost are saved by the CE.

The most streamlined path through Phase I is the State Approved Categorical Exclusion without a Project Development Report. Many Complete Streets improvements can be implemented without the need for a full report. Below are some considerations that may help local agencies achieve this determination from IDOT/FHWA.

1. Perform all work within the existing right-of-way and limit right-of-way acquisition.
2. Be aware of roadway designations such as National Highway System (NHS), Strategic Regional Arterials

¹⁹ Federal Highway Administration, 2016

²⁰ Illinois Department of Transportation, 2015

(SRA), truck routes, and state jurisdiction roads as these may trigger additional processing. Road diets will probably not be feasible on SRAs.

3. Minimize impacts to intersection capacity, property access, and on-street parking where feasible.
4. Tailor project limits to reduce impacts on identified historical districts, landmarked properties, or state-owned structures.
5. Limit scope to minimize need for excavation and off-site removal of contaminated soils, especially on state jurisdiction routes.

Further detail about where a PDR may be triggered can be found in the BLRS Manual, section 19-1.03. Adding bicycle facilities, sidewalks, or pedestrian refuge medians without affecting the number of available vehicular travel lanes can usually be implemented without need for a PDR.

Some projects, such as road diets, require the preparation of a PDR. The above suggestions apply to reduce the amount of public coordination and documentation necessary in the preparation of the PDR.

Local agencies may find it efficient to package improvements across multiple locations under a single improvement. In these cases, implementers should be aware that if one location does not meet the criteria needed to waive the PDR requirement, a PDR will need to be created for the entire package. This may slow down the implementation of projects where all criteria to waive the PDR are met.

Phase I: Use Data

Data, particularly crash data, are effective in providing documentation and justification for a particular improvement or impact.

For example, exceptions to design criteria are bolstered by good data collection and analysis to prove that the exception should be granted. Per section 27-2 of the BLRS Manual, safety, capacity, and impacts to the natural and built environment, among other items, should be considered in the evaluation of a design exception. By supplying supporting data and documentation to IDOT, a local agency will improve its case for an exception.

IDOT's safety emphasis areas defined through the Highway Safety Plan and Strategic Highway Safety Plan are premised on crash histories. Analyses included in these plans, which may be available down to the county-level, are valuable in communicating with IDOT.

Phase I: Design Flexibility and Engineering Judgment

In order to better understand the design criteria laid out in the BDE and BLRS manuals, and why design exceptions are necessary for local agencies implementing Complete Streets, it is important to briefly reflect on the principles on which the guidance provided in the manuals is based.

The transportation engineering industry's established guidelines, typified in "A Policy on Geometric Design of Highways and Streets" (the Green Book) published by the American Association of State Highway and Transportation Officials (AASHTO) reflect the needs of developing the midcentury Interstate Highway System.

The design guidelines in the BDE and BLRS manuals are based on the AASHTO Green Book. It is no surprise, therefore, that IDOT's project delivery process and the design guidelines that accompany it are oriented toward the construction of high speed roadways intended to move cars over great distances.

Roadways must serve the needs of a diverse assortment of communities, users, and contexts. Ongoing research in the transportation field also leads to new evidence-based practices and revisions to past assumptions. In order to address the aforementioned diversity, change, and the physical limitations imposed by the built environment, flexibility is essential.

To address unique conditions and changes, the design guidelines put forward in the BDE and BLRS manuals are flexible. The proper use of engineering judgment, a cornerstone of the engineering profession, allows the designer to deviate from guidelines where necessary to achieve project goals and integrate emerging best practices.

The BDE and BLRS manuals acknowledge design flexibility and the need for engineering judgment in their opening pages:

"The designer should develop roadway designs that meet the Department's operational and safety requirements while preserving the environmental resources of an area. Designers must exercise good judgment on individual projects and, frequently, they must be innovative in their approach to roadway design. This may require, for example, additional research into the highway literature or use of other Department Manuals." BDE Manual, pg. i,

This flexibility is noted further in the definition of "criteria" and "guideline":

“Criteria. A term typically used to apply to design values, usually with no suggestion on the criticality of the design value. Because of its basically neutral implication, this Manual frequently uses “criteria” to refer to the design values presented.

“Guideline. Indicating a design value that establishes an approximate threshold that should be met if considered practical.” BLRS Manual, 27-1

The AASHTO Green Book explicitly states the need for design flexibility, as does the Transportation Research Board’s Highway Capacity Manual. In 2004, AASHTO reiterated the need for design flexibility in the “AASHTO Flexibility Guide.” The Institute of Transportation Engineers (ITE), has also published several resources stressing the need for design flexibility and the use of engineering judgment to implement a context sensitive approach.

To encourage local, state, and federal agencies to safely accommodate pedestrians and bicyclists in roadway designs under the “Safer People, Safer Streets” and “Every Place Counts” initiatives, FHWA has issued several memoranda that support design flexibility, particularly in the planning of low speed roadways. The most useful memo related to asking for new facilities is:

“Questions and Answers about Design Flexibility for Pedestrian and Bicycle Facilities” – July 25, 2014. FHWA supported the use of NACTO’s “Urban Street Design Guide.”

Other supporting documents include:

- “Bicycle and Pedestrian Facility Design Flexibility” – August 20, 2013. In this document, FHWA supported the use of NACTO’s “Urban Bikeway Design Guide,” the AASHTO pedestrian and bikeways guides, and ITE’s “Designing Urban Walkable Thoroughfares.”
- “Separated Bike Lane Planning and Design Guide” – May 18, 2015. In this guide, FHWA provides design recommendations for municipalities considering implementation of separated (protected) bike lanes.
- “Revision of Thirteen Controlling Criteria for Design and Documentation of Design Exceptions” – May 5, 2016. This memorandum limited the 13 controlling criteria to 2, Design Speed and Design Loading Structural Capacity, for non-freeways with design speed <50mph and reduced the controlling criteria from 13 to 10 on other roadways.

FHWA published “Achieving Multimodal Networks: Applying Design Flexibility & Reducing Conflicts” in August of 2016. This resource consolidates best practices and case studies in addition to key citations of design flexibility within existing guidelines and standards. This resource is an excellent beginning point for local agencies seeking to implement contemporary Complete Streets designs.

In the process of implementing Complete Streets, local designers and consultants may find that it is advisable to deviate from the design guidelines in the BDE or BLRS manuals and apply for design exceptions to achieve shared goals.

Based on observed and future demand and community input, local engineers might determine that a new bicycle facility is needed to ensure safe accommodation or that curb extensions are needed to shorten a crossing in front of a school. Due to limited right-of-way, it might be necessary to narrow a through lane or eliminate a right turn lane to implement these improvements. This may lead to reductions in intersection capacity below the minimum level of service, triggering a design exception.

The example above illustrates a tension within the IDOT design manuals: not all criteria—free flowing vehicular throughput and roadway safety for all users for instance—can be met in every case. The designer may have to prioritize one objective over another.

When communicating with IDOT or preparing justification for design exceptions, design flexibility should be cited alongside safety data, previous successes implementing the design in question, and local plans. Remember, communication is key to getting everyone on the same page. The importance of communication shoots up when new concepts are put on the table.

Applying for IDOT Highway Permits

As with any work done on the roadway, a construction permit is required to execute a roadway improvement on a state-owned street. Similar to roadway work on a locally-owned street, all work must conform to applicable standards for design and traffic control. In the case of state-owned roadways, guidance is provided by the BDE Manual.

Any improvement initiated by local agencies on a state roadway must be reviewed by the local IDOT District to receive an IDOT Highway Permit. In the case of state or federally-funded projects, this will be taken care of during the IDOT project delivery process. Where local funds are

used, the review process for a Highway Permit will be determined by the policies of the local IDOT District.

Guidelines that apply to the IDOT project delivery process also apply to the Highway Permit review process. The reviewers will likely be the same people for both project types; therefore, the tips provided in earlier sections, especially related to design flexibility and engineering judgment, apply.

► **FOR MORE INFO** on Highway Permits, please see the follow page on IDOT's website: ido.illinois.gov/doing-business/permits/highway-permits/index

FUNDING LOCALLY-LED COMPLETE STREETS IMPROVEMENTS

Roadway improvements that support Complete Streets can be implemented using virtually any roadway funding source. This section will provide general information on how local agencies can fund Complete Streets improvements.

The universe of locally-led projects can be split into two general types: routine roadway network improvements such as resurfacing funded through local and state funding sources and network enhancements funded by federal grants.

Local- and State-funded Routine Improvements

Local agencies have access to regularly-allocated monies to maintain their roadways in a state of good repair. These funds may include Motor Fuel Tax (MFT) funding returned to local governments by IDOT, local funding from general revenues, or federal formula funds such as Community Development Block Grants.

These funds are typically used by local agencies to restripe faded pavement markings, resurface roads with poor pavement quality, reconstruct roadways at the end of their serviceable life, and modernize and modify signals.

There are no categorical limits that prevent local agencies from implementing improvements to accommodate all roadway users through these projects. Project scope, however, will need to cover the desired improvements (e.g. sidewalk work, addition of bike lanes, etc.).

Federally-funded Network Enhancements

Competitive federal funding sources are available at the regional, state, and federal levels that municipalities

can use to enhance the existing transportation network. These sources are distinct from those used for routine improvements in that they require the local agency to match some portion of the funding with local or state dollars. The match requirement varies by funding source. Some typical funding sources are described below.

Surface Transportation Program (STP) At the regional level, municipalities can apply to their local council of government for STP funds. This federal funding source is highly flexible and requires a 20% local match.

Congestion Mitigation and Air Quality (CMAQ) CMAQ funding is competitively awarded through the local Metropolitan Planning Organization (MPO). Applications must demonstrate that the proposed improvement would offset carbon emissions. Projects that support transit access and operations as well as biking and walking are eligible for this funding. CMAQ funding requires a 20% local match.

Highway Safety Improvement Program (HSIP) IDOT receives an allocation of FHWA resources dedicated to reducing traffic crashes. Municipalities can apply to IDOT for this funding, which is distributed through a competitive annual program. Using a multi-year crash history, the local agency must demonstrate that the project will improve safety based on proven crash modification factors. Funded projects require a 10% local match.

► **FOR MORE INFO** and detailed guidance on project funding, please see Chapter 9 of the BLRS Manual.

The Active Transportation Alliance has compiled a list of regular funding sources in Cook County, please see: <https://tinyurl.com/l7vbxkl>

The FHWA has created a useful resource mapping federal funding sources to eligible bicycle- and pedestrian-related expenditures: fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm

CASE STUDY on an innovative method to fund the local match

UNIVERSITY PARK, IL

One of the biggest challenges for municipalities is the lack of funding sources for transportation projects. A little ingenuity can go a long way in funding a project, including identifying a source for local match.

The Village of University Park paid for a road maintenance project with an innovative combination of federal and local funding. Stuenkel Road in University Park hadn't been repaved in decades. When nearby Governors State College changed from a community college into a 4-year university, traffic on the road shot up, and with it an urgent need for road repairs.

University Park was able to secure federal funding in the form of Surface Transportation Program (STP) funds. But the municipality couldn't meet the 20% local match requirement. Will County and University Park's council of government, the South Suburban Mayors and Managers Association (SSMMA), stepped up to help University Park.

Will County provided the local match so that the project could be completed. SSMMA's transportation committee then gave Will County the same amount in STP funds for use on Will County's roads.

Not all agencies will be able to implement this funding switch, but other creative (but legal!!) methods can be found to source match dollars for Complete Streets projects.

Phased Implementation by Funding Source

Every element of a Complete Street need not be implemented fully through a single project (beyond what is required in the Illinois Complete Streets law). Local agencies can take a phased approach to roadway improvements, completing a street bit by bit.

Some funding sources may be limited by grant language (e.g. resurfacing and striping only) or simply expense. During the first phase of an MFT-funded road diet project, for example, limited funds could be used to upgrade ADA ramps, reconfigure the roadway between curbs, and build refuge islands at critical uncontrolled crossings. In a subsequent phase funded under STP, pedestrian countdown timers, accessible pedestrian signals, and rectangular rapid flashing beacons could be installed.

Pilot Projects

Another approach to implementing a project in stages borrows the pilot project approach. Local agencies can pilot new designs with low-cost materials such as paint, signs, and flexible posts using local funds. These improvements could then be made permanent through

a follow-up project. IDOT is conservative in its approach to pilot projects, because there is little precedent on monitoring and managing them with respect to data collection and maintenance responsibilities. Municipalities are encouraged to start with projects on locally-owned roads; however, it is possible to pilot a facility on a State-route as was done with the construction of curb-separated bike lanes on Clybourn Avenue in Chicago in 2015. Please see the case study on page 37 of this resource for more about this project.



Bicycle and pedestrian facilities at one-day events in the Village of Willow Springs (top) and South Chicago Heights (bottom) helped community members envision Complete Streets facilities. Credit: Active Transportation Alliance



Interim designs can be used to test facilities over several months or years. Compared to concrete and landscaping, materials like bollards and paint are relatively inexpensive and easy to install and remove. Credit: City of Austin

The phased “pilot” approach allows the local agency to demonstrate the benefits of a roadway improvement that might be new to the community, building buy-in prior to further investments. Design tweaks can be made between phases, resulting in a final design that doesn’t need to be modified post-installation.

A parking-separated bike lane provides a useful example. In the first phase, an agency might use paint and flex posts to reconfigure the roadway to fit the new bike lane. Seeing that the project increased safety and comfort, the agency might then apply for federal grant funding to add concrete end caps to provide additional delineation and prevent illegal parking.

The pilot approach leads to less coordination and paperwork during the IDOT Project Development process when compared to a more traditional redesign. The most significant roadway changes (such as lane reduction and parking removal) would have occurred prior to the follow-up project.

► **FOR MORE INFO** on materials and process for pop-up events, please see these guides:

Trailnet’s Slow Your Street: A How-To Guide for Pop-up Traffic Calming, available at <https://tinyurl.com/l42zpgg>

Streets Plan CollaborativTactical Urbanist’s Guide to Materials and Design v. 1.0, available at <https://tinyurl.com/zwd8o2m>

Federal Project Funding by Phase

Not all federal funding sources cover every phase of the IDOT Project Development Process or the work needed to apply for certain competitive grants, such as HSIP, which require a substantial amount of up-front work before money is even awarded.

Where local funds or staff time are available, it is recommended to complete scoping and Phase I before applying for grant funding. The level of effort will be commensurate with the project scope. Significant time and effort can be saved by contracting work to a consultant specializing in Phase I studies. Completing scoping and Phase I can also provide a significant competitive advantage for grants, such as Illinois Transportation Enhancement Program (ITEP), or in some cases, ensure eligibility for funding sources, like CMAP’s CMAQ program.

The below timeline represents an ideal breakdown of funding by project phase.

1. Multi-year capital planning and scenario development (internal staff, local funds)
2. Up-front communication with IDOT (internal staff, local funds)
3. Scope project (internal staff, local funds)
4. Develop Phase I studies and documentation (internal staff and/or consultant, local funds)
5. Apply for funds to finalize design and construct project (internal staff)
6. Develop Phase II plans and materials (consultant, grant funds)
7. Construct improvement (contractor and/or in-house forces, grant funds)

IMPLEMENTING COMPLETE STREETS THROUGH IDOT-LED PROJECTS

So far in this resource, we have described how local agencies can work with IDOT to implement Complete Streets improvements using state or federal funding or when using local funds to improve state-owned roadways.

Local agencies can also request that IDOT improve multimodal accommodations on Department-led projects. While many of the strategies are the same as those used during locally-led projects—understanding the project delivery process inside and out, communicating clearly, pushing for design flexibility—IDOT is in the driver’s seat. It is even more important on these projects to understand IDOT’s approach to roadway design and to be able to cite their policies that support the changes that are being requested.

WHEN TO GET INVOLVED

Understanding the project delivery process is critically important for knowing when changes can be made to IDOT-led projects. The earlier that a municipality is involved in the project process, the easier it will be to integrate Complete Streets elements and ensure that all relevant roadway users are adequately accommodated in a project.

Recall the necessary steps in the construction of a new road or the reconstruction or repaving of an existing road:

i. Project Identification

For streets projects, the early bird gets the worm. It is critical that municipalities contact IDOT as soon as they discover that a street is being considered for a regular maintenance project. There may be an opportunity to expand the project scope to include pedestrian and bicycle facilities. It is critical to coordinate with IDOT before the project scope is finalized and the required Phase I Engineering and Environmental Studies begin.

► **FOR MORE INFO** and tips on the project scoping stage, please see the *Project Scoping* section of this resource, starting on page 20.

ii. Phase I: Preliminary Engineering and Environmental Studies

During the Phase I study process, there are some cases where there is still time to influence the project scope. Municipalities can encourage community members to voice their concerns about existing roadway conditions during public meetings and provide evidence for need for walking and biking facilities or improvements. As mentioned earlier in this resource, a lane-reduction should be included in the project scope and include Phase I because it requires a full engineering study. A full engineering study is not

²¹ Kriks, A., 2015

always required, however, if the lane widths are being narrowed but the number of lanes will not change.²¹ For instance, if a municipality wanted to narrow travel lanes in order to add a bicycle lane, or shift a stop bar to add a bicycle box to a signalized intersection, a technical memo could take the place of a full engineering study.

iii. Phase II: Contract Plan Preparation and Right-of-Way Acquisition

There are limited ways in which a municipality can request Complete Streets elements to be included in Phase II. At this stage in the project delivery process, for projects that required Phase I engineering, changes in scope during Phase II require amendment or re-initiation of Phase I, which is expensive and time consuming. Resurfacing projects, on-the-other-hand, do not require Phase I because they typically require a road to be restored to its existing conditions. As such, an in-depth Phase I study may not be necessary, saving the agency substantial time and effort. IDOT may therefore be reluctant to include road diets or other Complete Streets improvements due to required Phase I study. This means there is even more reason for communities to find out about resurfacing projects before they move into any of the subsequent project development phases.

All is not lost, however. If a municipality wants IDOT to narrow lanes to slow traffic without reducing the number of lanes, then this request can be integrated into a road resurfacing project during Phase II.

iv. Phase III: Project Construction

For the most part, municipalities will not be able to integrate Complete Streets elements into a project once construction has started. At this stage, municipalities can work with the project manager at the construction site to ensure that any existing facilities, like sidewalks or bicycle lanes, are either kept open during construction, or that there is a suitable alternative if these facilities are closed.

MAKING YOUR CASE

Implementing Complete Streets projects in your community may require a series of conversations with IDOT to ensure that the project includes Complete Streets elements, and that the Complete Streets elements reflect national best practices and the spirit of the state's Complete Streets law.

GENERAL TIPS

Get in early

It can't be said enough times, the earlier that a municipality is involved in a project, the better as it becomes increasingly difficult to incorporate certain Complete Streets elements as the project progresses. See the Project Delivery Process section, for more on the different stages of the project process.

Demonstrate community support

Involving a state representative, local elected officials, or a few community members in meetings with IDOT can help make the case for broad support for Complete Streets improvements and show that multiple stakeholders are invested in seeing the improvements. Letters of support from your Council of Government, or from other county, state and federal officials also help. Voices from local businesses, chambers of commerce, youth associations, schools, and local homeowner associations can also be persuasive. If the street in question is identified in your community's bicycle, pedestrian, or active transportation plan, then that's especially strong evidence that the streets has been identified by community members and municipal staff as an important leg in your network.

Based on project impacts and the funding source, IDOT may be required to engage the public during Phase I using their Context-Sensitive Solutions (CSS) approach. For example, if a project makes any changes to the "function" of the roadway, IDOT will need to conduct public involvement. This outreach could take the form of an open house or a stakeholder meeting. Local agencies should assist IDOT in identifying groups to involve in these meetings. It can also be helpful to show agency staff the existing facilities in the municipality to help demonstrate demand. If every business in your community has a bicycle rack, for instance, this reinforces community and business support for Complete Streets facilities.

A resurfacing project, however, will rarely require public involvement. It is up to local agencies to coordinate with IDOT to provide an opportunity to comment, at least in an advisory role during the project scoping phase. See the "When to Get Involved" section in this chapter for details on the types of Complete Streets improvements that can be requested during a resurfacing project. More detail on when public involvement is required can be found in the BDE Manual, section 19-2.

Circle back to the project goals, and the goals of the Department

It's easy to get distracted by the details and the rules. Sometimes it's best to remind everyone at the table about the main goals of the project or the community's long-term goals. Have there been crashes resulting in deaths and serious injuries on the street? Would bicycling or walking facilities close a critical gap in the network? Engineers are trained as problem-solvers, looping back to the reason the community is involved in the first place can ground the discussion.

Communities should reference IDOT's own published goals—such as those found in the State's Bicycle plan or the State's "Driving Zero Fatalities to a Reality" Vision Zero goal—when explaining why they feel Complete Streets improvements are warranted. For more information on the goals identified in the State's Bicycle Plan, please see **Figure 5**.

Local agencies should review IDOT's Strategic Highway Safety Plan as well as County safety plans produced by the Department. The Emphasis Areas and strategies described in these documents can be cited when coordinating with IDOT.



Figure 5: Five foundational principles identified in the Illinois Bike Transportation Plan.

► **FOR MORE INFO** on the *Illinois Bike Transportation Plan*, please see this link: <https://tinyurl.com/ma7c2py>

► **FOR MORE INFO** on *IDOT's Strategic Highway Safety Plan*, please see this link: <https://tinyurl.com/kjc4xxo>

Focus on everyday and vulnerable users

A Complete Streets argument works best when it is focused on discussing the needs of everyday users, especially in populated urban and suburban areas. IDOT's primary function is to provide a safe and well-functioning transportation system that gets people from Point A to Point B. It's easier to dismiss the needs of recreational users, but harder to ignore the needs of people who need options to get to school, work, the grocery store, or local businesses. Recreational facilities can also serve as commuting facilities, and vice versa.

Many people understand that vulnerable users such as children and older adults require additional protection. If a project passes near a school, park, or senior center, be sure that IDOT is aware of the connection. This strategy is particularly effective when asking for crossing improvements or road diets.

Consider your audience

It also may be helpful to reframe a bicycle facility as a pedestrian facility. Since most people walk at some point, they understand the need for sidewalks. Fewer people ride bicycles, and therefore, don't automatically understand the need for bicycle facilities. A sidepath can be described as a "wide sidewalk", to emphasize its utility for people on foot.

Be persistent

Don't take "no" as your last answer. IDOT must respond to comments from local agencies and community members, especially when requests are driven by a local or regional plan.

CASE STUDY on working with IDOT to include Complete Streets facilities

LYNWOOD, IL

In the Lynwood community, IDOT initially refused the Village's request to include pedestrian access on a new bridge where the Lincoln Highway (US 30) crossed Canadian National Railway tracks. IDOT reasoned that there weren't any pedestrian or bicycle destinations along the four-lane road. Lynwood's Mayor, Eugene Williams, explained to IDOT that there were community members without

cars that used Route 30 to get to Indiana. He also encouraged the agency to think more long-term, saying that the bridge should also meet future needs in the community since the bridge is built to last for 100 years.

After a few months of conversations, IDOT eventually agreed to include pedestrian access. A 10-foot pedestrian side-path was built along the east side of the bridge. An underpass was also included to provide pedestrian access to homes on the western side of the highway.²²



While still under construction when the top photo was taken, this new bridge on US30 also includes pedestrian facilities up to and on the bridge. Credit: Leslie Phemister, Active Transportation Alliance

²² Illinois Department of Transportation, date unknown

Stay calm.

It's easy for people to get their feathers ruffled when two entities don't initially see eye-to-eye on a project, especially when resources are scarce and so much is at stake. Take a deep breath if you feel your frustration turning to anger or sarcasm. A cool and collected demeanor will take you and your Village or City much further.

PERSUASIVE INFORMATION

Safety data

It is much more difficult to argue against changes that demonstrably reduce crashes, especially those resulting in serious injuries or fatalities. Safety also tends to be a bipartisan concern, since more conservative legislators also believe that government has a role to play in public safety. For some stakeholders who are skeptical that road design can improve safety, before and after data from a prior project can be especially compelling.

Safety data is also relatively easy to obtain. Municipalities can obtain crash data from IDOT, including crash rates over five or ten years on a corridor, and create maps of crash locations by travel mode. Municipalities can request data for their jurisdiction by emailing DOT.DTS.DataRequests@Illinois.gov. IDOT staff are very responsive if municipalities have questions about interpreting the data or the datasets.

Safety data can also be obtained from local law enforcement. In the Village of Willow Springs, for example, police department data shows that 37% of collisions in the municipality happen at one location on a state road. Documentation of the number of calls received by emergency responders can also demonstrate safety concerns.

Many Complete Streets improvements have well-researched Crash Modification Factors, as published by the FHWA. The tested countermeasures can be presented together with crash statistics and causes to make the case for the inclusion of a Complete Streets solution to a project. In conjunction with a proven crash problem, it is difficult to argue against an improvement such as a pedestrian refuge island that has been shown to reduce crashes by half!

High-level crash types are identified in the IDOT Strategic Highway Safety Plan and data trees included in the County safety plans.

Walk audit

Many people feel unsafe on high-risk corridors, but aren't aware of the specific features of the road design that create an unwelcoming environment. A walk audit is an opportunity for elected officials, agency staff, and community members to understand why a road is unsafe. For elected officials that have lived in a community for decades, it may also be the first time that they have walked on a local road since they were a child. Walk-audits can be a very eye-opening and transformative experience. Be sure to invite IDOT staff to the walk audit so that they can participate in the conversation.

► **FOR MORE INFO** about walk audits, please see this guide from walk audit guru Mark Fenton <http://markfenton.com/resources/TipsLeadingWalkAuditFenton.pdf>

Active Living Research has also published evidence-based street segment and intersection evaluation sheets: <https://tinyurl.com/m3n9g8u>



National expert Mark Fenton leads a walk audit near the Orland Park Civic Center in September 2015. Credit: Mike Yen, UIC MidAmerica Center for Public Health Practice.

Demonstrate Demand

IDOT's design guidelines require that accommodations for active modes be provided when it can be shown that even small numbers of people use the roadway to get around on foot or by bike. Many roadways meet IDOT's criteria. It is important to review each project with IDOT to ensure that minimum design standards are met, and then push for more.

Engineers love raw data. If it's possible to collect pedestrian or bicycle counts, then this will help make the case for multi-modal facilities. Municipalities and other stakeholders can collect data on their own, or work with partner agencies. For state-led projects, municipalities can ask for IDOT's assistance with video counting.

For locally-led projects, there are also a growing number of low-cost options. Traffic signals with video detection systems may be able to automatically provide pedestrian and bicycle counts. Iteris detection systems, for instance, offers a free software upgrade that enables bicycle counts. Data from Strava, a mobile app that uses GPS to track routes traveled for bicyclists, can also be a resource. Strava users tend to be higher-income recreational riders, but the data can identify routes used by this segment of riders. Another example is Counterpoint, a free, mobile-based application for counting people on foot, bike, wheelchairs, or in cars.

► **FOR MORE INFO** on count collection, please see these reports:

Alta Planning + Design's Innovative Pedestrian and Bicycle Counts White Paper includes information on low-cost mobile counting methods: <https://tinyurl.com/lxmys25>

Minnesota's Department of Transportation has also recently released this manual on Bicycle and Pedestrian Counting, it includes information about to analyze count data and a handful of case studies on how the data has been used: <http://www.trb.org/main/blurbs/175757.aspx>

The important items contained in the BDE include:

- The BDE designates "warrants for accommodations," meaning that in the following instances, the Complete Streets policy is triggered:
 - When the project adds lanes to the street.
 - When the project adds stabilized shoulders, extending the pavement between the outside lane and the dirt or gravel on the side of the road
 - Where there is a new or full reconstruction of the road

If one of the above triggers is met, then the project is examined to see if there is a need for bicycle and pedestrian facilities. The need is demonstrated when a project is:

- Identified as a bikeway in a regionally or locally adopted bicycle plan or is a recommended route in a local bicycle map.
 - There is significant current or projected volume of bicycle traffic on the road. In the BDE (Section 17-1.03), IDOT justifies bicycle accommodation on streets that will have a small amount of bicycle traffic five years after a project is completed (an average of 25 riders per day during the bicycling season).
 - Provides a main access route to a "significant destination" such as a school or park.
 - Provides access across a "natural or man-made barrier", usually this means a bridge over a river, railroad yard, or a freeway.
- The BDE designates certain widths for bicycle lanes, side-paths, and paved shoulders depending on the location, vehicle speeds, and traffic volume on a road. Figure 17-2.A, "**Bikeway Facility Selection**", is really the heart of the BDE when it comes to bicycle approaches.

It's important to remember that for some types of facilities, the Bikeway Facility Selection table in the BDE sets requirements for bicycle facilities that are different than the national guidelines. The FHWA has endorsed design guides from AASHTO, the National Association of City Transportation Officials (NACTO), and the Institute of Traffic Engineers (ITE) to "design safe and convenient facilities for pedestrians and bicyclists".²³ New national best practices have been released since the BDE was updated, and in some cases, municipalities can go above and beyond the BDE requirements by referencing the national guidelines. IDOT is currently in the process of updating the BDE.

²³ FHWA, 2016, Dec. 2

Roadway Characteristics	Bicycle Accommodation Required			
	Paved Shoulders (inclusive of rumble strip)	Outside Curb-lane Width	Bicycle Lane (includes gutter pan)	Side Path Bidirectional
Rural Roadways < 30 mph Posted				
Design Year ADT under 2000	None			
Design Year ADT 2000 – 8000	4 ft (1.2 m)			optional
Design Year ADT > 8000	4 ft (1.2 m)			optional
Rural Roadways 30 – 35 mph Posted				
Design Year ADT under 2000	4 ft (1.2 m)			optional
Design Year ADT 2000 – 8000	4 ft (1.2 m)			optional
Design Year ADT > 8000	6 ft (1.8 m)			optional
Rural Roadways 36 – 44 mph Posted				
Design Year ADT under 2000	6 ft (1.8 m)			optional
Design Year ADT 2000 – 8000	6 ft (1.8 m)			optional
Design Year ADT > 8000	6 ft (1.8 m)			optional
Rural Roadways > 44 mph Posted				
Design Year ADT under 2000	6 ft (1.8 m)			optional
Design Year ADT 2000 – 8000	8 ft (2.4 m)			optional
Design Year ADT > 8000				10–12 ft (3.0 m – 3.6 m)
Urban Roadways < 30 mph Posted				
Design Year ADT under 2000	None			optional
Design Year ADT 2000 – 8000		13 ft – 14 ft (4.0 m – 4.3 m)		optional
Design Year ADT > 8000			5 ft (1.5 m)	optional
Design Year ADT > 15,000			optional 6 ft (1.8 m)	10–12 ft (3.0 m – 3.6 m)
Urban Roadways 30 - 35 mph Posted				
Design Year ADT under 2000			5 ft (1.5 m)	optional
Design Year ADT 2000 – 8000			5 ft (1.5 m)	optional
Design Year > 8000			6 ft (1.8 m)	optional
Design Year ADT > 15,000			optional 6 ft (1.8 m)	10–12 ft (3.0 m – 3.6 m)
Urban Roadways 36 - 44 mph Posted				
Design Year ADT under 2000			5 ft (1.5 m)	optional

Table 1: This table in the BDE sets requirements for bicycle lanes, paved shoulders, and side-paths depending on different road contexts.

As mentioned above, IDOT justifies bicycle accommodation on streets that will have an average of 25 riders per day during the bicycling season five years after a project is completed. In the absence of data and counts, IDOT will calculate ridership on the street by multiplying the Average Daily Traffic (ADT) by the percentage of bicycle commuters.

Many people who bicycle, however, avoid streets that are unsafe. In some cases, the current level of bicycle use doesn't reflect how many people would use the street if safer facilities existed.

If there is a concern about justifying travel demand, it's best to quote the BDE. The BDE, section 17-1.04 contains the following language on assessing travel demand:

1. Urban and Suburban Areas: Because of the potential for bicycle travel, bicycle accommodation will likely be warranted in the majority of urban and suburban areas, particularly at points of community development that generate, attract, or result in commercial, residential, or institutional establishments near or along highways.
2. Rural Towns: Bicycle accommodation may be warranted in rural towns located on main highways where bicycle travel within the community and from outlying populated areas could justify such accommodation."

Areas of ambiguity

The flexibility and gray areas of IDOT's guidance can be leveraged to help ensure that the best possible bicycle and pedestrian facilities are included in a project. There are also cases when new best practices and national guidance can supply communities with options or treatments that aren't identified in IDOT's design guides.

Until the design guidelines are updated, here are the five strategies that can be used:

1. Cite design flexibility within IDOT's design guides.
2. Identify points of conflict within the design guides.
3. Ask for more than what's required, even when it's not in the bicycle accommodation table.
4. When the primary recommendation cannot be met ask for the next highest facility, and be prepared to offer those options.
5. Highlight the mismatch with national standards.

Each of these five strategies is explained in more detail, along with some examples of possible applications. These strategies can be used in conversations or correspondence with IDOT staff. A letter template for municipalities to use with IDOT is also included at the end of this resource as an addendum.

An important note about timing: as this guide is being developed in the spring of 2017, IDOT is currently undergoing a process of reviewing the BDE manual. The Active Transportation Alliance will try to keep this document as updated as possible, but please double check the latest version of the BDE before bringing recommendations to IDOT.

Cite design flexibility within IDOT's design guides.

Language describing areas of design flexibility within the BDE and BLRS manuals and in materials distributed by the FHWA was previously highlighted in this resource in the discussion of locally-led projects. These materials can also be cited when with IDOT on their projects.

Identify points of conflict within the design guides.

There are several treatment types where the guidance in the BDE and BLR are out of synch with other sections of these manuals. Municipalities can use this ambiguity to ask for more progressive accommodations.

- a. **Intersections.** The BDE conveys mixed messages about intersection guidance, especially on large suburban arterials with multiple lanes. For instance, the BDE

states in 36.-105(a) that “intersections at acute angles are undesirable because they restrict vehicle turning movements... [and] increase the exposure time for vehicles and pedestrians crossing the main traffic flow...” The ability of a vehicle to move through an intersection is based on a formula that includes vehicle velocity, the geometry of an intersection, and other factors. What the guidance leaves out is that the vehicle speed at an intersection is fundamental for pedestrian, bicycle, and vehicle safety. The goal should be to slow vehicle turning movements to 15mph.

Municipalities who want to see intersection designs that are more pedestrian and bicycle-friendly can quote other sections of the BDE that are supportive of Complete Streets approaches:

BDE 36-1.09: “Safe and convenient movement of pedestrians and bicyclists through the intersection needs to be considered in the design of the intersection...At signalized intersections, longer crossing times and conflicts with turning vehicles can significantly affect the overall capacity of the intersection. To reduce these problems, the geometric layout of the intersection may need to be revised, refuge islands included within the intersection, special turn lanes added for bicyclists, or other factors included in the design.”

BDE 17-2.02(d): “On-road bicycle movements through intersections should be an integral part of a roadway movement.”

Municipalities can also reference NACTO’s section on corner radii in the *Urban Street Design Guide*. The section is available online at: <https://tinyurl.com/kdpwlam>.

b. Road Diets. The BDE provides weak support for road diets, which are sometimes referred to as “rechannalization projects”. Many road diet projects nationally occur during resurfacing projects, but under the BDE, resurfacing projects are typically an exception to the Complete Streets policy. Bicycle and pedestrian facilities “may be included” in resurfacing projects if there is enough local support and if they can be incorporated into the overall project scope. In practice, however, a lane reduction would move the project to Phase I engineering, when most resurfacing projects only require Phase II engineering. Local support can be demonstrated with bicycle or multimodal transportation plans that call for road diets. Local agencies can also proactively request a road diet early

in the project delivery process. Here’s the relevant section of the BDE:

BDE Section 17-2.02(g): “Bicycles also can be accommodated on a roadway by marking or re-marking the pavement to increase the width of a curb lane or to add bike lanes. For example, it may be feasible to:

- Reduce the number of traffic lanes (e.g. if one-way couples are created or if a parallel roadway improvement reduces traffic demand on adjacent streets that is more suited for bicycle travel, subject to analysis of capacity/safety/operational needs...”

c. Right-turn corner islands. Also known as pork-chops, right-turn corner islands can improve safety for people on foot and riding bicycles at suburban-style intersections with adequate setbacks. Corner-turn islands can be discouraged in the BDE due to concerns with maintenance and snow removal, and IDOT may be resistant to introduce corner islands on road projects. These concerns can be addressed, however, and the feature can vastly improve safety for pedestrians.

Municipalities should be careful about the introduction of right-turn corner islands if an intersection is being widened. Local experience shows that the right-turn corner islands do not improve safety in this case.

In cases where the right-turn corner islands can be added without widening the intersection, municipality staff can cite the BDE when requesting the accommodation.

BDE 36-2.02: “Corner islands may also function as a refuge island to aid and protect pedestrians who cross a wide roadway. Corner islands may be required for pedestrians where complex signal phasing is used, and they may permit the use of two-stage crossings.”

Ask for more than what’s required, even when it’s not in the table.

When exceptions to the recommended accommodation are not met, the BDE states that the “next, highest, and best accommodation shall be considered”. The BDE, however, does not mention what is considered the next highest and best accommodation. Municipalities can ask for more progressive treatments, especially when there are increasing number of national standards and best

²⁴ Fehr & Peers, 2014; Parsons Brinckerhoff, 2014

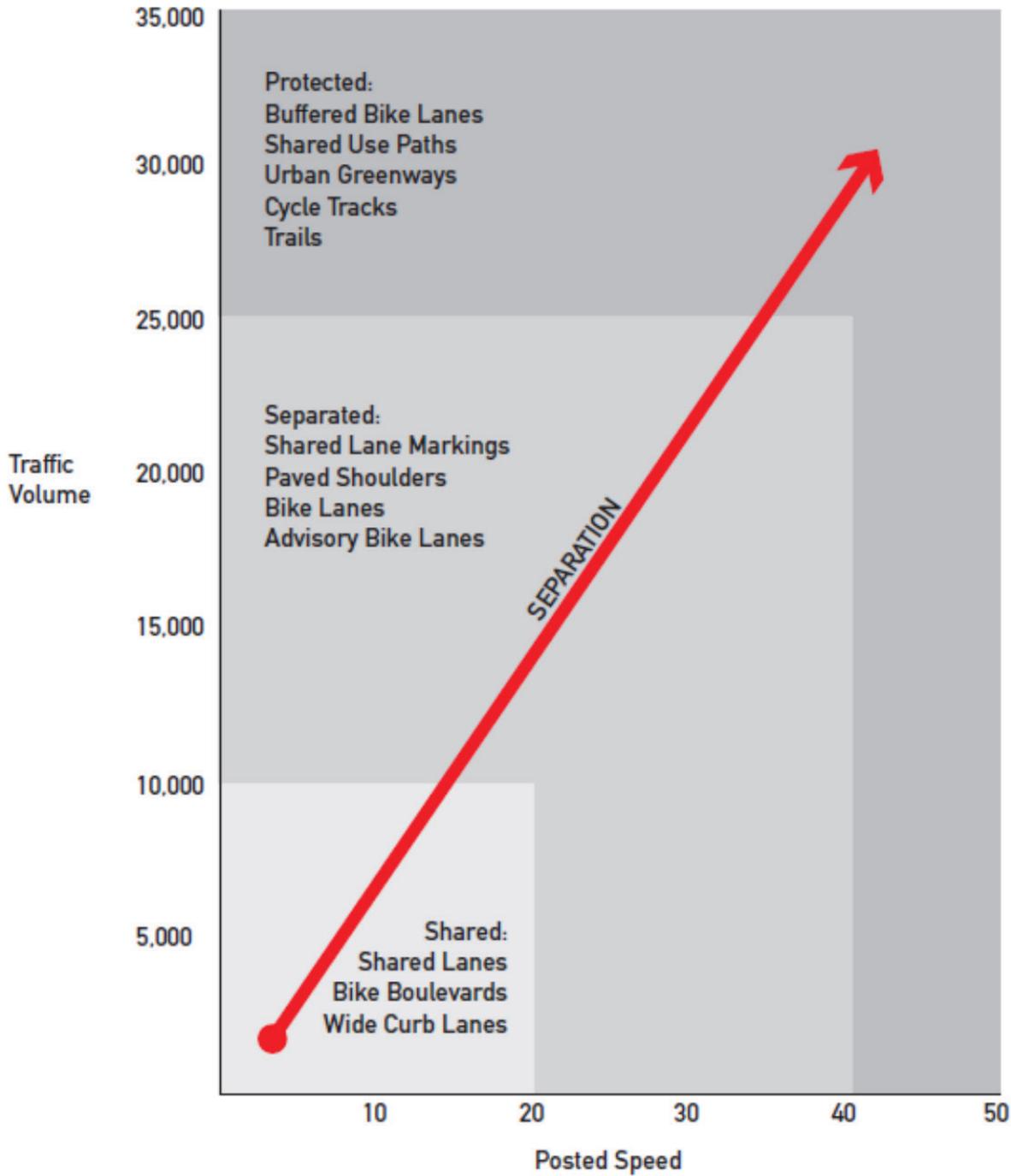


Figure 4: Bicycle Facility Selection: Guidelines for Vehicle Speed & Volume
 Credit: Complete Streets, Complete Networks, Active Transportation Alliance

Bicycle and pedestrian facilities should be based on the surrounding land-use, as well as a combination of the speed limit and traffic volumes. As a general rule,

separation between vehicles and bicycles should increase as vehicle speed and volumes increase (please see Figure 4).

practices available. The FHWA, for example, has published guides on separated bicycle lanes and road diets.

► **FOR MORE INFO** about the FHWA's guides for separated bicycle lanes or road diets, please see these links: <https://tinyurl.com/mcwlo2u> and safety.fhwa.dot.gov/road_diets/info_guide/

More progressive treatments for people bicycling are often referred to “low-stress bicycle facilities”, and are based on methodology that evaluates bicycle facilities for the comfort of various types of users (such as children) as they travel along the roadway.²⁴ Depending on roadway conditions, separated bicycle facilities are more comfortable for more types of cyclists than on-street facilities. This is particularly true for high traffic corridors, multi-lane streets, and streets where vehicles are traveling at high speeds. However, on residential streets, shared lanes (also known as bicycle boulevards) are appropriate, particularly when they are paired with other traffic-calming elements such as bump-outs, chicanes, mini-roundabouts, and diverters.

► **FOR MORE INFO** on the types of bicycle facilities that are recommended for different land-use contexts and additional constraints for bicycle as well as pedestrian facilities, please refer to the following table from the *Complete Streets, Complete Networks design guide* from the Active Transportation Alliance. <https://tinyurl.com/n96duvv>

When the primary recommendation cannot be met, ask for the next best facility.

The BDE clearly states that when the recommended accommodation for a road facility can't be met in the Phase I report, that the “next highest, and best accommodation shall be considered”. The BDE, however, doesn't identify what the “next highest, and best” facilities are for different road contexts. In many cases, when the initial recommendation can't be met, then a bicycle facility is eliminated from the road plans, even though there's a variety of alternatives. Be prepared to provide IDOT with a list of alternative recommendations if the initial recommendation can't be met.

For off-road facilities, there aren't usually a lot of good alternatives. If there isn't enough room for a sidepath, then it's possible that a sidewalk could be added. A sidewalk with a buffer to the road is ideal, but a carriage sidewalk (a sidewalk without a buffer between the edge of the sidewalk and the vehicle traffic) is the third best option. If any type of sidewalk cannot be added, then IDOT may pay for levelling the area next to the roadway so that an accommodation can be more easily added in the future.²⁵

In some cases, a combination of on-road and off-road facilities can be an alternative for a sidepath. In DuPage County, the County's Division of Transportation added a four-foot paved shoulder and carriage sidewalk instead of a sidepath on a project on Warrenville Road. The solution was a good fit for the pedestrian and bicycle demand

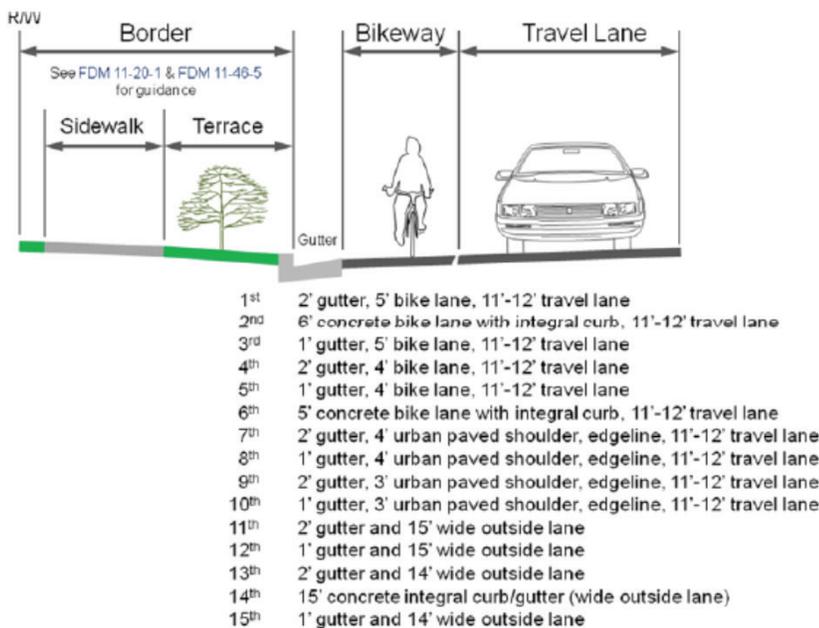


Figure 5: A listing of 15 “sequential preference(s)” for bikeway facilities in Wisconsin’s Complete Streets Manual.

²⁵ Kriks, A., 2015

along the street. In cases where the street is a major part of a bicycle network or connects to a regional trail, however, this solution would not be sufficient.

For an on-road facility, depending on the road width, vehicle design speed, and other factors, there are often alternatives that would provide some degree of bicycle accommodation. If a 6-foot bicycle lane cannot be added, then a 5-foot bicycle lane may provide safe passage for bicyclists. Gutters can sometimes be overlaid with asphalt to obtain an extra foot of smooth riding surface. If a 5-foot bicycle lane cannot be added, then a sharrow, along with other traffic calming elements, might be an option.

Wisconsin's Complete Streets manual includes a list of the variety of alternatives that could be utilized on a street (please see Figure 5). Although the AASTHO "Green Book" and the Active Transportation Alliance do not recommend bicycle lanes that are slimmer than 5', Wisconsin's table demonstrates that even if the recommended solution isn't feasible, there's a plethora of other options available to provide safe accommodation for people traveling on bikes.

► **FOR MORE INFO** about AASTHO's Green Book, please visit this link: https://bookstore.transportation.org/collection_detail.aspx?ID=110

Highlight the mismatch with national standards.

Since IDOT's policy was written before the release of key national guidance on bicycle facilities, there are times when the policy doesn't match national best practices for bicycle facilities. Here are two examples:

- **Sidepaths.** The BDE bicycle facility selection table is much more encouraging of sidepaths than other national guidance. National guidance encourages sidepaths on roadways with high traffic volumes, high traffic speeds, and multiple lanes because the high traffic volumes mean that a classic road diet (two travel lanes, a turn lane, and bicycle lanes) may not be feasible. (On streets with traffic volumes of over 15,000 to 25,000 vehicles per day, road diets can cause congestion and simply shift traffic to alternative routes—thorough traffic analysis is needed in these cases.) Sidepaths can also prove challenging to design in urban areas where there are multiple or large curb cuts for driveways. Curb cuts create multiple conflict points with cars backing out of or into driveways. AASTHO's 2012 bicycle guide states that sidepaths,

"are not intended to substitute or replace on-road accommodations for bicycles, unless bicycle use is prohibited".²⁶

The Active Transportation Alliance recommends limiting the use of side paths to streets with 35-40 mph or higher speed limits and an average daily travel (ADT) of 18,000 or higher. A road diet or protected bicycle lanes may be a more suitable treatment for overbuilt roads with a lower ADT. Sidepaths can add maintenance costs because, unlike bicycle lanes, IDOT will not cover the maintenance costs.

- **Protected (or Separated) bicycle lanes.** Like "sidewalks for bikes", protected bicycle lanes (PBLs) create a separated space for bicycle lanes with planters, curbs, plastic posts, or parked cars.²⁷ While PBLs have been constructed in cities across the country, until 2015, none had been installed on an Illinois state route, even though state-controlled routes tend to have the width necessary for a PBL or other barrier-protected bicycle facilities.²⁸

IDOT doesn't include PBLs as an option in the BDE despite recent national guidance on the lanes, such as the FHWA's Separated Bicycle Lane Guide. The next story illustrates how a concerted effort on the part of advocates, community members, and local elected officials secured a much-needed protected facility on an IDOT road. A note the terminology: IDOT refers to PBLs by the FHWA term, "separated bicycle lane".

► **FOR MORE INFO** about the FHWA's separated bicycle lane guide please visit: <https://tinyurl.com/mcwlo2u>

²⁶ American Association of State Highway and Transportation Officials, 2012

²⁷ Green Lane Project, People for Bikes, date unknown

²⁸ Burke, R., 2015

²⁹ Burke, R., 2015

³⁰ Illinois Department of Transportation, 2015



Clybourn Avenue, an IDOT street, before and after the addition of curb-protected bicycle lanes.
Credit: Active Transportation Alliance

CASE STUDY on asking for innovative facilities

CHICAGO, IL

In 2013, Bobby Cann, a 26-year-old that was actively involved in Chicago's cycling community, was hit and killed by a drunk driver on Clybourn Avenue.²⁹ Clybourn was a popular bicycle route, over 100 people on bicycles rolled through during peak commute hours. Clybourn was dangerous for all modes of traffic. In the five years between 2008 and 2012, 30 crashes that involved pedestrians or people on bicycle occurred on Clybourn between North Avenue and Division. That represented 40% of all injury crashes on the street, even though pedestrians and bicyclists usually represent 12% of all road users.³⁰

The Active Transportation Alliance had been pushing IDOT to allow PBLs on state routes since 2011, when the IDOT banned them on state routes. After the fatality, the non-profit organization worked with Cann's family, the local elected official, Alderman Walter Burnett, and IDOT to establish a PBL precedent on Clybourn. At first, the agency was reluctant to allow the PBL, citing safety reasons and the need to study PBLs on Illinois roads. After many months of conversations, IDOT agreed to install a PBL on Clybourn as an on-going feasibility study.

Those that worked closely on this project suggest that IDOT was able to introduce a non-standard facility because the local agency, in this case the Chicago Department of Transportation, was willing to meet the



agency halfway, by collecting data, maintaining the facility, and assisting with community outreach.

In November 2015, Clybourn Avenue finally had a PBL between North and Division Streets. A 7.5 foot bicycle lane was separated from vehicle traffic by a concrete curb (see Image 9). The wide bicycle lanes allow for street sweepers to keep the lane free of debris and snow, but also allow bicyclists to pass each other safely. The project took several months to complete and cost \$700,000.

IDOT continues to evaluate the safety, maintenance, and operations of the PBL on Clybourn in a three-year follow up study, and hasn't released any plans to build more PBLs on state roads. The final report should be released in 2019.

FUNDING

The BDE designates the percentage of the project costs that a municipality must pay. Table 2 identifies the types of projects that the agency will fully cover. In some cases, such as when a deteriorated sidewalk or sidepath is being removed, and replaced due to widening or shifting the roadway, the state will cover all the costs. If a local municipality wants to add a new sidewalk, sidepath, or decorative elements to a sidewalk, however, then the municipality will need to cover all the added costs.

In this scenario, the municipality must agree to maintain the off-road sidepath and sidewalk. IDOT will pay 80% of the costs, including the cost for moving utilities, if the "warrants" for a bicycle or pedestrian facility are met.

► **FOR MORE INFO** on state funding programs, please see Section 4-2 of the BLRS.

Facility	Project Type/Need	Match requirement		
		100% IDOT	80% IDOT/ 20% Local	100% Local
Sidewalks	New construction (w/in or near project termini)		•	
	Utility adjustments, pedestrian barriers, retaining walls, other collateral items		•	
	Decorative elements			•
	Right-of-way	•		
	Maintenance			•
	Removal of existing, but deteriorated sidewalks not impacted by the State's improvement			•
	Replacement of the deteriorated sidewalk		•	
	Decorative elements			•
	Adjustment, removal, or replacement of existing sidewalks due to an IDOT improvement			
	Due to an IDOT improvement	•		
	Due to a local request			•
	On bridges and approaches	•		
Curb ramps (treated the same as sidewalks, see above)				
Bicycle lanes	New construction		•	
	Utility adjustments, pedestrian barriers, retaining walls, other collateral items		•	
	Right-of-way	•		
	On bridges and approaches	•		
Wide outside lanes	For bicycle accommodation	•		
	Maintenance	•		
Widened shoulders	For bicycle accommodation	•		
	Maintenance	•		
Off-road side paths	New paths		•	
	Removal and replacement of existing deteriorated paths		•	
	Adjustment or removal of existing paths			
	Due to an IDOT improvement	•		
Due to a local request			•	

Table 2: Project cost-shares from the BDE, Sections 5-5.02(b) and Sections 5-5.02(o)

CONCLUSION

This resource is almost finished, but the real work has just begun. By explaining IDOT's policy and design guidelines, and providing a few tips about where and when to negotiate, we hope we've shown that with a little savvy and perseverance that municipalities can work successfully with the agency to realize their Complete Streets vision.

You are not in this alone. If questions come up about design options or working with the state agency, the following people can serve as resources for municipalities or local agencies:

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The project team is grateful to the planners, engineers, and advocates that lent their expertise and on-the-ground experience to this document:

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The resource was created with the support of the Cook County Department of Public Health and the Centers for Disease Control and Prevention, and is a project of Healthy HotSpot. Healthy HotSpot is an initiative led by the Cook County Department of Public Health that aims to build healthy places in suburban Cook county through community partnerships. For more information on Healthy HotSpot, please visit: healthyhotpot.org.



Publication date
July 2017

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ADDENDUM: LETTER TEMPLATE

[Municipality name]
[Municipality address]

[IDOT District Program Manager name]
[IDOT District address]

Dear [IDOT Program Manager name],

We are writing regarding the bicycle, pedestrian, or transit accommodations in the [insert project name], *[insert project boundaries or short description.]*

Based on the *[insert communication or meeting name here]*, the current project plan includes *[describe accommodation]*. This street connects *[key destination]* for *[key user]*, with the potential to [insert reason the street is important, such as safety issues, closes a critical gap, or key destination]. *[Insert crash data, or other relevant numbers if available]*. For this reason, we request the installation of *[insert suggested facility here]*.

We believe that the *[insert requested bike, ped, or transit facility]* accommodation will provide safer, more enjoyable access for the residents and visitors of *[municipality name]*, and matches the intent of Illinois' Complete Streets policy and Chapter 17 of the Bureau of Design and Environment Manual, which states that "When planning transportation improvements, the Department considers the travel needs of all users of a transportation corridor including bicyclists and pedestrians". *[Alternatively, quote a different relevant section of the BDE.]*

In addition, our municipality's Complete Streets policy, *[insert resolution number or other official reference]* explicitly states that all users of the roadway, especially people on bicycle, foot, or taking public transit, are given full consideration during roadway projects. *[If the street is identified in your bicycle or active transportation plan]* This street is identified in our municipality's Active Transportation Plan as a key corridor in our *[insert "bicycle" or other mode/s]* network. Furthermore *[insert another example, if available, of public support from community members, state and local elected officials, or other key stakeholders]*.

Thank you for your consideration,

[Insert signature]
[Insert title]
[Inset municipality name]

