National Association of
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Administrator Shailen Bhatt
Deputy Administrator Andrew Rogers
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Federal Highway Administration
US Department of Transportation
1200 New Jersey Ave S.E.
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Dear Administrator Bhatt, Deputy Administrator Rogers, and Director Shepherd,

On behalf of our 87 member transportation and transit agencies in the United States, NACTO is pleased to submit comments in response to FHWA's request for information: Improving Safety for All Users on Federal-Aid Projects.

Experience in our member cities, in other places across the U.S., and in peer countries with better safety records, show that **safe street design is one of the most critical components of a Safe Systems Approach to reducing traffic deaths**. Unfortunately, many roadblocks–including many on the federal level–prevent cities, states, counties, and other entities from designing streets that save lives.

In the United States, "highways" are commonly thought of as high-speed, limited-access roads designed for motor vehicle travel only. However, 70% of the National Highway System and Federal-aid Highway System is not limited-access, and millions of people live, walk or roll, ride bikes, take transit, push strollers, go to work, and go to school right on these roadways. **In many places, these streets are the main streets of a community–and Federal regulation and practice contributes to making them unsafe.**

Today, under current Federal regulations, it is tragically often easier to build streets that prioritize vehicles moving at excessive speeds, than it is to design safe streets that work for everyone–people walking, rolling, biking, transit transit, and in a private vehicle alike. However, **by overhauling regulations that make unsafe streets easy to build, and safe streets difficult or impossible, the U.S. can remove impediments to rapidly saving lives on some of the most dangerous streets in the country.** NACTO believes that the implementation of our recommendations to this RFI will help stem the unconscionable level of death on our roadways, and help create a transportation system that is safer for all road users.

In particular, in addition to our detailed responses below, NACTO urges USDOT to:

- **Incorporate by reference the use of all FHWA-approved urban street design guidance in Federal regulation.** The AASHTO Green Book is currently the only design standard for roadways on the National Highway System, per 23 CFR 625.4(a)(1). However, the Green Book does not provide adequate guidance for safe, multimodal designs on urban streets, and thus should not be

the only authorized design guidance for urban streets. To ensure practitioners are easily able to use appropriate urban street design guidance and to align Federal regulations with IIJA (which explicitly authorizes the use of all FHWA approved guidance on city-owned streets), USDOT should incorporate by reference the following publications:

- NACTO's *Urban Street Design Guide*
- NACTO's *Urban Bikeway Design Guide*, including *Designing for All Ages and Abilities* and *Don't Give Up at the Intersection*
- NACTO's *Transit Street Design Guide*
- NACTO's *City Limits*
- FHWA's *Bikeway Selection Guide*
- FHWA's *Separated Bike Lane Planning & Design Guide*
- FHWA's guide to *Achieving Multimodal Networks*
- FHWA's guide to *Small Town and Rural Multimodal Networks*

- **Establish minimum standards for sidewalks and bikeways in Federal regulation and create guidelines for where Complete Street criteria should be used in all urban, metropolitan, and small-urban-area FHWA projects.** In the absence of any Federally-adopted standards for multimodal streets, the path of least resistance in Federal-aid projects is to prioritize private motorized travel. Fortunately, states have shown that there are policies, practices, and standards that can dramatically improve outcomes for Complete Street projects. USDOT can improve safety on Federally funded projects by establishing standards that ensure pedestrians' and cyclists' needs are incorporated into every design. These include: adopting rigorous Complete Street implementation directives that normalize pedestrian and bike infrastructure in all projects;[1] pedestrian and bicycle level of traffic stress (LTS) thresholds;[2] detailed design standards;[3] creating "categorical design exceptions" for safety and all-user access needs so that a design exception process cannot be required for FHWA-recommended safety features such as pedestrian and bicycle facilities; and providing authority to jurisdictions to prioritize performance (safety and access) when design standards or operational regulations do not achieve those goals.

- **Disallow the use of Federal funds–such as HSIP funds intended to improve road safety or TAP funds intended to improve pedestrian and bicycle infrastructure–for increasing motor vehicle capacity.** Removing excess vehicle capacity is crucial for achieving safe speeds and reducing fatal and serious injury crashes. However, even when using HSIP funds or upgrading transit, it is common for agencies to implement features such as vehicle approach lanes, lane widenings, and drivable shoulders, all of which demonstrably increase speeds. While these changes diminish safety and often degrade the crossability or bikeability of a street, they are routinely justified as safety measures. FHWA should issue guidance disallowing the use of safety funds for adding general-traffic motor vehicle lanes, widening general-traffic motor vehicle lanes in urbanized areas beyond the 10'-11' range recommended by NACTO, ITE, AASHTO, and

[1] For example, Washington State DOT adopted Complete Street directives for every project in a 2022 memo, "Project Delivery Memo #22-03 – Complete Streets Implementation."

[2] For example, Washington State DOT adopted pedestrian and bicycle LTS thresholds in a 2022 Design Bulletin, "Designing for Level of Traffic Stress Bulletin #2022-01."

[3] Examples include Ohio DOT's Multimodal Design Guide and Massachusetts DOT's *Separated Bike Lane Planning & Design Guide*.

FHWA, or degrading pedestrian or bicycle Level of Traffic Stress or access to transit stops. Agencies using funds intended for on-street transit should be disallowed from adding general motor vehicle capacity or widening roadways in order to retain the same number of motor vehicle lanes in transit projects. In addition, FHWA can exercise closer oversight in the early stages of project development, ensuring that funding and scoping decisions address the immediate project and the overall context to ensure that selected design interventions do not create other safety problems.

- **Set clear process and time limits on state review of city projects that use Federal funds.** FHWA's Complete Streets report to Congress notes that even with improved multimodal design standards, "different interpretations of FHWA rules can lead to inconsistency or missed opportunities in addressing safety for all users."[4] In effect, State DOT scoping, design, design review, and permitting process applied to Federally-funded projects create significant barriers to Complete Streets project implementation. These processes were mostly developed for large state highway and interstate (re)construction projects, and are often reasonable efforts for projects that run into the hundreds of millions of dollars. Critically, while processes are slightly different for 3R (resurfacing and less intensive maintenance) than for reconstruction or rehabilitation projects, states remain responsible for such standards, as well as their interpretation and application.[5] Multimodal and safety projects often languish or are watered-down, especially when state guidance has not yet been updated or when state staff lack expertise in designing for urban contexts. To address this, USDOT should develop a process for allowing city design self-certification as a default practice, establish an overall process time-clock for state review of projects receiving Federal aid, and create a pre-approved standard checklist of required information for project approvals.

FHWA rightly has stated that the United States faces a crisis on our roadways, with more than 100 people killed every day–far more than our peer countries. We applaud USDOT for clearly outlining the crisis, for the collaborative approach to national safety evidenced by this RFI, and for your efforts to make U.S. roadways safer through the National Roadway Safety Strategy.

Thank you for the opportunity to comment on this important issue. We look forward to closely partnering with FHWA on this effort to help ensure America's transportation system is safe for all.

Sincerely,

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Executive Director, NACTO

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[4] FHWA. 2022. "Moving to a Complete Streets Design Model: A Report to Congress on Opportunities and Challenges."

[5] FHWA's March 2023 memo on the "Review of State Geometric Design Procedures or Design Criteria for 3R Projects on the NHS" is a helpful compilation, but does not sufficiently address the differences between urban and rural conditions.

Improving Road Safety for All Users

1. What steps are being taken by your agency (if you are commenting on behalf of an agency) or an agency you are familiar with to improve safety for all roadway users, including pedestrians, bicyclists, public transportation users, children, older individuals, individuals with disabilities, motorists, and freight vehicles? How are equity and demographic data considered?

Transportation agencies across the United States are hard at work to improve safety on the streets that they own, design, manage, and operate. Below is a representative set of project examples, and policies that transportation agencies are working on across the country:

- **Chicago, Illinois** has a number of active Complete Streets projects underway that exemplify their efforts to improve safety.
- In **Fort Collins, Colorado** the Larimer County Urban Area Street Standards includes complete streets standards. West Elizabeth is an example of a project that is aiming high with Bus Rapid Transit, a road diet, protected bike lanes, and intersection treatments to improve bike/ped crossing. South Timberline is an example of a routine project that incorporates bike/ped elements. East Lincoln is an example of a project that took a road from having no bike/ped facilities to having everything - high quality sidewalks and bike lanes with good connections to the Poudre Trail, look outs, art, and furniture.
- **Indianapolis, Indiana** has had a Complete Streets policy in place for 11 years, and updated the ordinance in 2022. The city has implemented a Complete Streets worksheet to follow projects through design in order to ensure compliance with the ordinance. IndyGo's Purple Line, developed in partnership with the City of Indianapolis, is one great example. Old Southside/South Meridian is another project currently in construction with a road diet, multi-use path, and bumpouts/crosswalk improvements.
- **Los Angeles, California** undertook an ambitious Broadway Safety Project
- **Milwaukee, Wisconsin** has a Complete Streets Policy passed by the Milwaukee Common Council in October of 2018. The policy states that, "The public way shall be designed, operated, and maintained to address accessibility and maximize the comfort, safety, and needs of all users, of all ages and abilities, whether traveling on foot, by using mobility aids/devices, by transit, by bicycle, or by motor vehicle, including freight/delivery." Additionally, the City of Milwaukee is committed to eliminating all fatalities and serious injuries from traffic violence. Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all. The City's upcoming reconstruction of Walnut Street between N 12th St and N 20th St is a good example of what they are trying to accomplish.
- **Philadelphia, Pennsylvania** established a Complete Streets policy in 2009 through executive order. The City's Office of Complete Streets was instituted in 2017 and has grown to include almost 20 staff members. The City's Complete Streets Design Handbook was released in 2017 and is currently in the midst of an update process. Since the inception of the Office of Complete Streets, Philadelphia has built out a network of separated bikeways, coordinated on-trail projects, instituted proven safety countermeasures, and built bus lanes and other transit priority measures. The City infuses a Complete Streets mentality into projects small and large – from repaving projects to major capital projects. Their Complete Streets design work is led by a focus on a Safe Systems approach and by our dedication to Vision Zero.

- **Portland, Oregon's** Division Transit Project is BRT service that focuses on safety and improving transit and cycling for a high crash corridor in Southeast Portland
- **Raleigh, North Carolina** has taken on a number of large road safety projects in recent years, including the Lake Wheeler Road Improvement Project and Downtown North-South Greenway Connector
- **San Jose, California** has undertaken several important road safety projects in recent years, including their 10th and 11th St Bicycle and Pedestrian Safety Project. The city was also awarded a Quick Strike grant for four shovel-ready bicycle and pedestrian safety projects. This work is in line with several core planning documents, including their Better Bike Plan 2025, their En Movimiento Plan, and their West San Jose Multimodal Transportation Improvement Plan
- **Seattle, Washington** has had a Complete Streets ordinance in place since 2007. This policy requires use of a rigorous, data-driven process to evaluate the needs of pedestrians, bicyclists, transit riders, and persons of all ages and abilities when planning capital and maintenance projects. The City's Complete Streets policy has been successful in advancing the delivery of multimodal mobility and safety projects throughout the city. Recent key projects that exemplify the effectiveness of the City's Complete Streets policy include the Green Lake Way Paving and multimodal Improvements Project, the Rainier Corridor Improvements Project, and the NE 65th St Vision Zero Project.
- Please also see comment letters submitted from the District Department of Transportation (Washington, DC), the New York City Department of Transportation, the Portland Bureau of Transportation, the Houston Department of Public Works, and the Chicago Department of Transportation for additional specific examples.

2. For agencies that have adopted Complete Streets standards or policies (or similar policies), what benefits does your agency see in developing Complete Streets? Provide examples and citations to relevant regulations, policies, procedures, performance measures, or other materials where possible.

Complete Streets policies, along with other policies like Vision Zero, are valuable for setting a strategic Safe System vision for a city. As shown in the examples under **Question 1**, cities use these policies to define everything from the process by which they evaluate the safety of their transportation network to the tools they will use to accomplish their street safety goals. Without a policy in place that has been adopted by local leaders and serves as a guiding resource for transportation agencies, it can be next to impossible to consistently implement safe streets projects over time and make any progress toward reducing traffic fatalities and serious injuries. As described in **Question 3**, though, simply having a Complete Streets policy–even one that is endorsed by local leaders–is never enough to insulate city transportation practitioners from motor vehicle-focused designed standards established at the Federal level and enforced by State DOT that require cities to water down or scrap good safety projects. A strategy for safety is critical for achieving safety goals, but without design support these policies can be hard to follow and tricky to implement.

3. For agencies that have adopted Complete Streets standards or policies (or similar policies), what challenges has your agency experienced when implementing your Complete Streets policy?

- **Anonymous City 1** reports that their state blocks any project it reviews that reduces motor vehicle capacity or conflicts in any way with the AASHTO Green Book. Their state project prioritization

process allocates the overwhelming majority of transportation money to [motor vehicle] travel time reliability at expense of all other goals.

- **Anonymous City 2** reports that on a recent project on a state-owned road, their state used a design variance (from their Design Policy Manual) to reduce a bike lane from 5' minimum, to 4'. The state did not follow regulations and standards (specifically, 5' minimum from AASHTO Bike Design Guide), despite pushback. Stronger protections need to be in place in the regulations to follow the standards equally for both cars and other modes' design features. This issue could be resolved through national standards, which would add Federal oversight to such decisions.
- **Anonymous City 3** reports that their state's implementation of the HSIP program strictly requires HAWK signals to meet the MUTCD guidance in order to be counted towards benefit and does not allow the City to use FHWA STEP guidance to facilitate their installation. This has delayed funding of at least one project.
- **Anonymous City 4** reports that they encounter challenges working with the state DOT on projects located on state highways running through the city. There, per state code, the state DOT has jurisdiction over all channelization and intersection control changes that occur between the curbs or roadway edge lines on these routes. The state DOT has also more stringently applied MUTCD standards on proposed projects on state highways that have slowed several community requested safety improvements. In two recent cases, the City had to aggressively petition the state DOT to permit the City to install new pedestrian crossing signals on state highways that serve as key connections to adjacent schools and crossings for neighborhood greenway routes. These signals did not meet the MUTCD 4F warrants for Pedestrian Hybrid Beacons at the time they were installed, but are expected to attract new pedestrian and bicycle trips once the neighborhood greenways are completed. These signals were eventually permitted as “pilot” installations.
- **Anonymous City 5** has experienced issues on a number of projects:
    - On one recent project on a state-owned road, a desired pedestrian crossing did not materialize because it did not meet warrants for pedestrian crossing and it is a high speed road. The State DOT has added it to the next round of speed limit reviews the City is hoping for speed management at this site, since at its current speed a pedestrian crossing would have to be a HAWK signal.
    - On another project on a state-owned road on the NHS, State DOT modifications to the right-of-way authorization process led to significant delays in beginning right-of-way acquisition.
- **Anonymous City 6** reports many compounding issues:
    - State DOT review timelines are too long and slow down projects as the City awaits their feedback. These reviews are typically primarily focused on peak hour vehicle LOS/traffic analysis, which can often block or water down needed safety improvements.
    - Sight distance standards are a continuing issue that comes up on parking-separated bike lane projects. At many intersections throughout the City, parked cars create suboptimal sight distance. This is accepted as a necessary evil until the introduction of a separated bike lane, at which point sight distance suddenly becomes a vital need. This creates an unfair double standard where the introduction of bike lane projects lead to large clearance of parking that is not required on projects without separated bike lanes.
    - State vehicle code indicates that speed limits must be established within 5 mph of the 85th percentile speed with few rare instances where it may be reduced up to 10 mph. This

overreliance on 85th percentile speed keeps the City from instituting desired safe speed limits in accordance with NACTO's *City Limits* guidance.

- The State DOT's review of a recent transit project has delayed the project by five months. The installation of digital kiosks necessary for broadcasting next-bus information on the Federal-Aid network has proven controversial on the grounds that they might violate the Highway Beautification Act, as well as other Federal regulations that flow from the Act. The City has forwarded the State DOT substantial engineering, legal and best practice research. To date, the State DOT has not communicated a timeline for review of the City's findings. There is a concurrent phase of this project that is currently under design, which is Federally funded. Depending on the State DOT's decision on the kiosk controversy, kiosks will need to be removed from this project. This would not only modify the project, but also weaken the City's ability to communicate basic next-bus and system alerts information to riders.
- The state's HSIP program is often used for expensive traffic signal equipment projects. These projects are instituted via HSIP by calling out the installation of countdown ped signals as the safety improvement. While this city agrees that countdown ped timers are a safety improvement, the large price tag of signal equipment means large sums of HSIP money are used on something that is primarily for traffic signal maintenance and technology upgrades.
- Accommodations for vulnerable road users are rarely addressed with bridge projects, particularly the bridge approaches (state and city-owned streets).
- In one instance, the state DOT took out center medians on a state-owned road, which resulted in an increase in crashes and several broken signal poles. The city ended up footing the bill to replace the mast arms.
- The State DOT does not maintain ped/bike infrastructure on state roads. If ped/bike infrastructure is added to a state road, the state DOT will then only maintain to the limits of the general use travel lanes, leaving the rest of the street (with the ped/bike infrastructure) for the City to now maintain.

- **Anonymous City 7** provided several examples:
  - One instance where a Safe Systems Approach was weakened was the rejection by the State DOT of a 10-foot wide travel lane next to an 8-foot wide parking lane. The reasoning was that the parked car needed a 3-foot buffer on both sides to safely operate. The additional space needed was recommended to be taken from the bike lane width and buffer space. The result is more comfort (and more speed) for auto traffic at the expense of the proposed bike accommodations.
  - Applying features to manage speed and reduce reckless driving continue to be an obstacle in working with the State DOT. When building an All Ages and Abilities network, it is essential for the safety of all users to manage vehicle speeds through vertical or horizontal means. Several cases involve projects on state signed connecting highways and on the National Highway System.
  - Another example is the requirement to design roadways based on the design year (20 years after construction) peak hour volumes. This results in the design and construction of a number of travel lanes, turn lanes, and turn lane lengths based on one or two hours per day over 20 years in the future. This overbuilt roadway results in higher vehicular speeds,

reduced bike and pedestrian facilities, increased impervious surface and stormwater collection costs, reduced green space, and increased urban heat island effect.
    - In many instances, exclusive left turn lanes are required by the State DOT where the City doesn't feel they are needed and at very long lengths. This takes away space that could be used in a multimodal way.
    - In some instances, the City gets into very lengthy and complex debates with the state DOT about best use for limited space
- **Anonymous City 8** reports issues across several areas:
    - **Speed Limit Reduction** (State Jurisdiction, NHS and non-NHS) - Project implementation has been slowed down due to the requirement to perform a speed study in order to post a reduced speed limit. Since State DOTs are given the authority to determine what constitutes a speed study in most cases, in practice states set speed limits even within many cities whose laws might set a different default speed.
    - **Intersection Design Study Requirements** (State Jurisdiction/Intersections with Local Roads) – the State DOT requires a capacity analysis and detailed intersection design study for any change to capacity or perceived change to capacity at an intersection that includes a State Jurisdiction Route. This includes minor changes like eliminating a slip lane or shortening a turn lane (State Routes Only).
- **Public Meeting/Community Engagement Requirements** (Local Jurisdiction) - Major multimodal projects have been slowed down or halted due to IDOT requiring additional public engagement beyond any documented requirements. CDOT has been required to respond in detail to a single individual opposed to a project even after exhaustive community engagement. It is very easy for one actor (bad-faith or otherwise) to slow down a project on the grounds of need for more community engagement.
- The **Texas Transportation Commission** denied **San Antonio's** request to reduce lanes on Broadway, citing a reduction in LOS on the roadway with the introduction of dedicated bicycle lanes and wider pedestrian sidewalks. The roadway was in the middle of a "turn-back" effort, and a portion of it is owned by TxDOT. However, notwithstanding the public voting on the funding of the $40m+ project with a bond, TxDOT has taken the $28m federal funds from the project.
- In **Portland, Oregon** the MUTCD's restrictions on bike signals and the prescribed use of sharrows continues to be an issue for some of their projects on city-owned streets. These restrictions place limits on geometric design options, even though the MUTCD is not a design standard. These and related restrictions in the MUTCD often conflict with best practices including the recommendations of FHWA's own design guidance.
- **Indianapolis, Indiana** reports that Complete Streets projects are often slowed down, due to NEPA interpretations. While NEPA is a critical regulation for protecting natural and cultural resources, the problem lies in the amount of documentation needed and review time required when a project is low or no impact. Most of the City's projects are within existing rights of way, within the existing built environment. The Programmatic CE of ~2008 for certain pre-approved project types was a step in the right direction, the Programmatic CE has since grown into something that requires thousands of dollars to prepare and months for INDOT to review. The costs of these reports take away funds that could be used for actual safety improvements. An unexpected historic property (not impacted) could cost thousands and delay the schedule beyond their programmed date, resulting in either losing the funding entirely, or cutting vital improvements from the scope.

4. For agencies that have adopted Complete Streets standards or policies (or similar policies), but have not adopted an alternative classification system, how do you identify the appropriate context(s) for the application of a complete streets design model? Under what types of circumstances have you found the development of Complete Streets to be inappropriate?

Complete Streets policies are intended to cover all streets and roads except for limited-access highways. It is important to cover all urban, suburban, small-town and developing areas including those zoned for future urban or suburban development, as well as places within walking and biking distances of those areas, rural transit service routes and the streets that connect the destinations, and so forth. For example, **Austin, Texas's** Complete Streets Policy clearly specifies the universal application of the policy, and explains that freeways do not accommodate people walking just as pedestrian-only streets or shared-use paths do not accommodate motor vehicles.

It is important to pair a street's **functional classification,** which deals with movement and flow, with its **context,** which deals with place. Each arterial, collector and local classification should be paired with its contextual surroundings, which range from rural to suburban to urban core. Context sensitive design standards should then be applied to each value.

5. To inform decisions on street design, some agencies have adopted modal hierarchies, or alternative street classification systems, that prioritize pedestrians, bicyclists, or others on certain street types based on context. Has your agency incorporated such a hierarchy, or classification into agency policies, and if so, what benefits have been realized? Please provide a link to your documents for reference.

A large number of U.S. cities—including large cities with contexts ranging from central business district to car-oriented suburban or rural—have adopted specific standards and policies requiring Complete Streets. These include:

- **Street classification systems that go beyond functional class.** Examples can be found in the *Urban Street Design Guide*, *San Francisco's Great Streets Plan*, *Philadelphia Complete Streets Design Handbook*, *Boston Complete Streets Design Guidelines*, and Complete Streets in Seattle.
- *Roadway Cross-section Reallocation: A Guide* (NCHRP 1036) provides detailed width guidance.
- **Sidewalk requirements.** Nearly universally, cities have adopted sidewalk requirements, often through both zoning and a transportation plan. Widths and standard cross-sections are used that typically include a furnishing and planting zone, sidewalk, and building frontage zone, with greater widths required in commercial areas. Examples: San Jose CA, Austin TX, Houston TX, NYCDOT, Florida DOT, WSDOT.
- Several cities have a **curbside prioritization policy** that specifies how curbside lane space is to be assigned–e.g., to transit lanes, bikeways, public space/widened sidewalks, truck loading, passenger loading, metered parking, stormwater capture, or storage parking–depending on the prevailing land use and whether the route is on a bike or transit plan. Examples: *Seattle Streets Illustrated*, *Baltimore Complete Streets*.

Design Standards for the NHS

6. How could the FHWA regulations governing Design Standards for Highways (Part 625) be revised to consistently support prioritization of the safety of all users across all project types?

Overarching revisions

Changes to regulations at 23 CFR 625 can and should shift the design process for streets towards a default of ensuring safe accommodation for all users by providing walking-inclusive designs and speed-managing designs. 23 CFR 625 currently includes or even encourages designs that encourage inappropriately high motor vehicle speeds or that fail to serve the public by excluding people walking, taking transit, or using bicycles, including older adults, children and their caregivers, youth, and people with a wide array of physical abilities.

For example, on Federally funded projects located on state highway routes located within city boundaries, the **City of Milwaukee** is required to design intersections to accommodate truck turning movements for design vehicles that would not be able to travel along the majority of their side streets, and are forced to make movements that do not occur in the real world (do not cross over painted centerlines, use all available space). This design standard impacts their ability to implement bump-outs/curb extensions aimed to slow turning speeds, reduce pedestrian crossing distances, and eliminate vehicles passing in the parking lanes. The result is more comfort for turning truck traffic at the expense of pedestrian safety.

Over the years, FHWA has issued excellent but non-binding design guidance and has removed some of the formal barriers to better geometric design, including in its revision of the Controlling Criteria. While design flexibility has supported innovation and led to many new solutions to our nation's dire road safety issues, existing design standards still disincentivize much safety work by subjecting Complete Streets projects to a large number of design exceptions. As a result, the path of least resistance in applying Federal funding is still generally to increase motor vehicle speeds and thereby increase injury risks for all users.

An important next step is to standardize the inclusion of safer design features on the NHS and Federal-aid highway projects, particularly features relevant to major streets in urban, suburban, and small urban (urbanized) areas (e.g., protected bike lanes, sidewalks, pedestrian signals, crosswalks, and refuge islands, etc.). Note that between 2016 and 2020, 34% of the traffic deaths that took place on an arterial or collector occurred on the NHS.

Specific Recommended Revisions

- Under IIJA, municipalities have the authority to use locally-adopted FHWA-recognized design guidance for Federal-aid projects on locally-owned non-NHS streets, regardless of State-adopted standards. This authority should be reiterated in 23 CFR 625.3 (a)(3), and extended to non-Interstate NHS facilities by updating 23 CFR 625.3(a)(4).
- Create "Categorical Design Exceptions" modeled on NEPA Categorical Exclusions for safety and all-user access needs. Given the gravity of the public health emergency posed by traffic deaths, it is both justifiable and imperative that FHWA create a list of project types and features that are categorically exempt from NHS standards, including state-adopted standards. This list could include 10' travel lanes (11' outside lane on transit or freight corridors), smaller curb radii, lower design speeds, pedestrian refuge islands, separated bike lanes, dedicated transit lanes, and other features that are already recommended by FHWA but are subject to the onerous design exception process. FHWA can then encourage states to adopt the same categorical exceptions.
- Revisions can and should be made to 23 CFR 625 that normalize and standardize the wide adoption of safer Complete Streets design. Specific areas for standardization include:

    - **Survivable Target Speeds**: A robust Safe System Approach to roadway design sets target speeds for each facility based on the simple concept that people can survive specific types of crashes at different speeds. Freeways are designed to allow high speeds by precluding head-on collisions and right-angle conflicts and the absence of pedestrian crossings. Arterial streets have all of these conflicts, and necessitate lower vehicle speeds, or they will continue to produce high numbers of serious injuries and deaths. A target speed process would set speeds based on the types of conflicts and frequency of conflict points expected. The lowest target speeds would be for streets in which people walking or biking are not separated from motor vehicles even in cross-section, with higher target speeds available to the designer only if people walking and biking are to be separated from motor vehicles in both cross-section and at conflict points (i.e., through traffic control). This strategy is detailed for urban & suburban streets specifically in the NACTO *City Limits* guidelines.
    - **Sidewalk Installation**: Standardize (i.e., require unless a design exception is granted) sidewalk installation on all Federal-aid new construction or reconstruction projects in urbanized (urban and suburban) areas. Set desired minimum widths for sidewalk and furnishing zones, using PROWAG widths as an absolute minimum.
    - **Bikeway Installation**: Standardize (i.e., require unless a design exception is granted) the installation of bikeways that meet All Ages and Abilities guidance or the guidance in FHWA's Bikeway Selection Guide, on all Federal-aid new construction or reconstruction projects in urbanized (urban and suburban) areas, unless a locally adopted bike plan specifically designates a parallel route within ¼ mile.
    - **Sidewalk Maintenance and Repair:** Standardize (i.e., require unless a design exception is granted) sidewalk repairs on NHS facilities undergoing 3R improvements. While pedestrian ramp upgrades are typically required through ADAAG, there has been no requirement to bring sidewalks into a state of good repair. Since the burden of sidewalk maintenance typically falls on property owners, despite being in the public right of way, sidewalks are often only upgraded during redevelopment. This process has led to extraordinary differences in the quality of sidewalks based on the economic status of neighborhoods, and has dramatically worsened safety and accessibility for blue-collar workers, people with disabilities, seniors, and youth, with the worst burdens falling on people of color.
- **§ 625.2.c** currently reads: "An important goal of the FHWA is to provide the highest practical and feasible level of safety for people and property associated with the Nation's highway transportation systems and to reduce highway hazards and the resulting number and severity of accidents on all the Nation's highways." That section is inconsistent with USDOT's Safe System Approach, which sets no "highest practical and feasible level of safety", and rather labels deaths and serious injuries on America's roadways as unacceptable. Part 625, and indeed all of 23 CFR, should be updated to reflect the Safe System Approach.
- **§ 625.3.a.1** currently includes a consideration of "access for other modes of transportation". But that consideration is subsumed by the consideration in § 625.2.a to "adequately serve the existing and planned future traffic of the highway in a manner that is conducive to safety, durability, and economy of maintenance". In other words, NHS designs can improve access for other modes, unless that improved access interferes with planned and future traffic. Corridors with high-volume

traffic are not compatible with human modes, and the best way to improve access for other modes is to reduce vehicle speed. But that fact is not accounted for in the current text of Part 625.

7. What changes to other FHWA regulations codified at Title 23, CFR are needed to equitably improve safety for people of all ages and abilities who use urban and suburban streets?

- **Adopt simple, specific design criteria** (either through regulation or technical memoranda) that standardizes the inclusion of pedestrian, bicycle, and transit facilities on NHS streets and roads. FHWA's Complete Streets report to Congress cites the very helpful example of MassDOT's design criteria. An additional model is provided by Washington State DOT's standard for Level of Traffic Stress for pedestrians and bicyclists, which provides specific, simple, contextual evaluation standards that could be broadly adopted.
- **Update Performance Measures to Reflect Safe System Approach**. HSIP performance measures can be improved by removing or de-emphasizing per-VMT measures, which give the roadway system 'credit' when people drive longer distances even if the same number of people lose their lives or their health. Instead, per-population measures such as people killed or seriously injured (KSI) per 100,000 people provide a better inter-state and inter-city comparison of system performance. Absolute KSI numbers are still useful, and percent decreases in KSI are useful for time-series comparison. FHWA could set a goal of moving to per-trip safety measures, which would complement the population measures without introducing a 'sprawl bonus'.
- **Update CMAQ Excessive Delay** measure to stop 'shaming' states for having slow traffic per the CMAQ performance measures, *"Excessive delay* means the extra amount of time spent in congested conditions defined by speed thresholds that are lower than a normal delay threshold. For the purposes of this rule, the speed threshold is 20 miles per hour (mph) or 60 percent of the posted speed limit, whichever is greater." Thus, a signalized urban street whose speed limit is 25 mph and whose average travel time is approximately half that speed will always be considered congested under that rule.
- **Introduce the minimization of excessive speed** as a performance measure. States should report the number of segments that routinely have 95th percentile speeds more than 10 mph over the speed limit *or the target speed for that facility type based on an injury-minimization speed policy*. States would then set targets for reducing these dangerous excess speeds.
- **Enforce fair representation in MPOs**. MPO composition should comply with basic proportional representation rules. Under 23 CFR 450.310(d), MPOs are required to consist of local elected officials, transportation/ transit officials, and 'appropriate' State officials. In practice, MPOs are often structured regressively,[6] resulting in Federal planning funds, and, in many cases, program funds, being distributed by unrepresentative bodies in which urban populations are systematically given less weight than suburban and quasi-rural areas within the metropolitan region. Population-weighted MPO voting is an alternative worth exploring.
- **Protect people walking and biking during construction.** Regulations on Traffic Management Plans in 23 CFR 630 do not discuss protection of non-motorized travelers.
- **Match project development process, design review, and standards applications to project scope.** Cities and many states are eager to scale up the application of low-cost design measures,

[6] Sanchez, Thomas. 2006. "An Inherent Bias? Geographic and Racial-Ethnic Patterns of Metropolitan Planning Organization Boards." The Brookings Institution *Transportation Reform Series.*

but are stymied in the use of Federal-aid funds due to the several layers of review faced by even the smallest projects. Many cities have indicated that the review process, especially if design exceptions are involved, results in study costs that exceed implementation costs—often by several hundred percent. Projects of limited scope that correct some, but not all, safety issues or substandard conditions should not be subject to the same extensive study and review that might otherwise be applied to major construction.

    - For example, **on city that asked to be anonymized** reports that there, **Federal processes and requirements don't adjust based on the scale of projects.** In order to move quickly to address known safety and accessibility issues, the city DOT often ignores opportunities for Federal funding because it slows projects down. They can't respond to the traffic crash trends that they're seeing nationally given the timeline of projects that receive Federal funding.

- **Enable city design self-certification as a default practice.** FHWA can work directly with state-city pairs and empower State DOTs to use their authority to let cities and counties self-certify their street designs. This is particularly important when State guidance has not yet been updated or when State staff lack expertise in designing for urban contexts. For example, Los Angeles has self-certification authority from Caltrans, and Chicago recently entered into an agreement with IDOT to allow self-certification on specific geometric features including lane width and curb radius.[7] These agreements can and should become widely applied models. FHWA can provide a standard form for doing so and promote it with state representatives. Especially in the context of the IIJA's directive that locally adopted FHWA-recognized guidance is the standard for city-led projects on city streets, it is clear that FHWA has the authority to do so.
- **Expedite the use of Federal funds by creating a pre-approved standard checklist of required information for project approvals.** Today, states and cities are forced to interpret the legal language of Federal procedures, and each state creates their own design review, environmental, and procurement approval process to administer these Federal requirements. Instead, cities and other subrecipients should be given a standardized checklist that includes all required information for project approvals.
- **Create distinct urban and rural guidance on traffic growth.** An increase in motor vehicle volume on urban and suburban streets is not inevitable, and Complete Streets planning allows higher volumes of people to be moved in existing street footprints. FHWA can adopt specific metrics that support complete networks, such as a Street Connectivity metric, which is proven to be linked to better safety performance.
- **Operationalize the legal requirement that Federal-aid projects not disrupt pedestrian and non-motorized access and safety.** By combining route directness measures for pedestrians and bicyclists with Level of Traffic Stress (LTS) or FHWA's STEP guidance on pedestrian crossings, FHWA can determine whether a project will improve or degrade safe access across streets and roads. For example, a project that makes a street or road more difficult to cross by either adding lanes, increasing design speed, posted speed, or high-end speeding, or increasing motor vehicle volume would be required to add STEP-approved pedestrian crossings at existing unsignalized intersections.

[7] Illinois DOT and Chicago DOT. 2023. "Memorandum of Understanding to Collaborate on Traffic Safety Infrastructure."

- **Reframe the *Manual on Uniform Traffic Control Devices* (*MUTCD*)** as a proactive, multimodal safety regulation. Cities maintain that the *MUTCD* continues to be the primary regulatory document preventing the implementation of safe streets elements on urban streets.

8. What changes to other FHWA regulations codified at Title 23, CFR are needed to equitably improve safety for people of all ages and abilities who use rural roadways, including in rural towns?

Standardize or require separated shared-use paths or equivalent facilities along NHS corridors in inhabited rural areas. Require shared-use paths or equivalent facilities within 25 miles of metropolitan area boundaries, and within 3 miles of micropolitan area boundaries. In and near rural towns, standardize maximum allowable design speeds and set detailed speed management guidance.

9. What, if any, elements of design are not adequately covered by the existing design standards in Part 625?

- Urban intersection design, which has progressed significantly in recent years.
- Access metrics are missing from the design standards in Part 625. Access metrics, such as measures of destinations reachable by transit+walking or transit+biking in a given time period on facilities that meet a specific safety or level of stress threshold, are increasingly used to operationalize the concept of destination access for performance-based planning. FHWA's work on this area with MPOs and states is promising and can be developed into a way of evaluating whether NHS projects (or regional plans as a whole) are in fact serving the need of creating complete networks for all users. These metrics are a way to operationalize equity in transportation planning by allowing real comparisons among the opportunities provided by the transportation systems to different population groups or geographic areas. Route Directness Indicators and LTS for pedestrian and bicycle trips are likewise applicable on a project-by-project basis.[8]
- **Guidance on target speeds for urban conditions.** For example, the 7th Edition of the AASHTO Green Book describes design speeds up to 45 mph as 'typical' for urban arterial streets (Section 7.3.2.1 Design Speed). While this may be true, it is important to provide guidance that reduces these speeds to levels that are survivable in the conflicts expected on such streets. See NACTO *City Limits.*
- **Pedestrian Level of Traffic Stress threshold and a Bicycle Level of Traffic Stress thresholds.** U.S. streets are in need of a pedestrian and bicycle facility standard. To meet this need, FHWA can adopt a Level of Traffic Stress threshold for walking or biking on all Federal-aid projects as well as all projects on the NHS. Following the model used statewide by WSDOT, FHWA could adopt LTS 2 as the standard and require roadway owners using Federal-aid funds to meet Pedestrian/Bike LTS 2 or better. Replacing or building an LTS 3 condition or worse would require a design exception. While this standard should ideally apply to all non-freeway facilities, it may be necessary to restrict its application to urban and metropolitan areas. If rural areas are excepted from this standard, it is important to include small towns and micropolitan areas, as well as roads close enough to an urban area that urban growth might occur.
- Pedestrian and Bicycle crossing standards for NHS and Federal-aid streets. The FHWA STEP guide provides a good starting point, which can be adopted as a standard and enhanced with

[8] Examples include Access Across America (University of Minnesota) and the Transit Center Equity Dashboard.

provisions related to the acceptable distance between STEP-approved crossing points in various developmental contexts.

- Standard inclusion of **sidewalks and other pedestrian facilities or walking/biking/micromobility facilities** such as urban shared use paths. The existing adopted standards recommend sidewalks in some settings but do not consider them standard (e.g. Green Book 7, section 6.3.2.9). The lack of standards permit too much latitude to avoid making improvements to sidewalks even in urban and rapidly urbanizing settings.
- Standard inclusion of **bikeways**, especially urban and suburban separated bike lanes (protected bikeways/cycle tracks) or other facilities that meet the FHWA *Bikeway Selection Guide* or NACTO *Designing for All Ages and Abilities* requirements. The lack of Federal design and traffic control standards specific to separated bike lanes can easily result in the downgrading of bike projects, resulting in facilities insufficient to protect the traveling public or to achieve FHWA's goals. The NACTO *Urban Bikeway Design Guide*, Ohio DOT *Multimodal Design Guide*, and MassDOT *Planning and Design of Separated Bike Lanes* all address this issue.
- **Transit** system elements, including transit lanes, stops/stations, shelters, and safe design of streets to support transit access such as pedestrian and bike networks on non-limited access roads. As noted in the FHWA's Complete Streets report to Congress, these elements are discussed in depth in the NACTO *Transit Street Design Guide*.
- The accessible, walkable, bikeable design of sidewalks and trails as they cross **driveways**.

10. What specific provisions of Part 625 present an obstacle to equitably improving safety for people outside of vehicles, and why?

As noted by FHWA in the Complete Streets report to Congress, the ambiguity of the provision that all designs for NHS projects, "adequately serve the existing and planned future traffic of the highway" leads many to assume that an increase in motor vehicle traffic volume is the primary issue to be addressed by design. FHWA and Congress have made it clear that they do not intend this interpretation, and should rewrite the clause to clearly explain the need to provide safe, quality facilities to all users.

The provision in 23 CFR 625.3(a)(4) specifying that states 'may' allow cities to use adopted guidance on Federal-aid projects is now out of date, as the IIJA explicitly and clearly provides that states shall permit cities to use FHWA-recognized guidance on non-NHS streets.

Another major obstacle to equitably improving safety for people outside of vehicles in the provisions of Part 625 is that the Standards, policies, and standard specifications listed do not provide detailed guidance on bicycle and pedestrian infrastructure. The Standards, policies, and standard specifications listed are also not freely available to the public, which prevents the public from meaningfully engaging with decision makers about the application of those standards. From their development to their publication to their use, the provided standards lack "just and fair inclusion" that might lead to equitably improving safety.

11. Are there additional documents that FHWA should incorporate by reference in Part 625 to better facilitate the context-sensitive design of streets that safely serve all users? Please identify the documents and describe why they should be referenced in the regulation.

- **NACTO's *Urban Street Design Guide* *(USDG)*** is an FHWA-recognized resource that provides concrete guidance for improving the safety and livability of urban streets for pedestrians, bicyclists, drivers, and transit users. It has been endorsed by dozens of cities, states, and

organizations, and is used in cities across the United States. It is important to note that since the *USDG* applies only to streets and not to high-speed or limited-access facilities, it is fully consistent with existing NHS standards and guidance such as the Controlling Criteria and the 7th Edition of AASHTO's A *Policy on Geometric Design of Highways and Streets.* Further, since the USDG serves as design guidance rather than traffic control guidance, its application is compliant with the *MUTCD*, which it references. ADAAG and PROWAG standards are also not in conflict with the *USDG*, and it directs readers to use the prevailing accessibility standard for their jurisdiction. NACTO has compiled detailed comparisons of the *USDG* to other standards in the past, and is happy to do so again if requested by FHWA.

- **NACTO's *Urban Bikeway Design Guide*** is an FHWA-recognized resource that provides concrete guidance for designing safer, more attractive, and sustainable streets that accommodate and encourage bicycling. The guide details the design of conventional marked bicycle lanes, with and without buffers, and provides extensive guidance for protected (separated) on-street bikeways. The designs presented in the guide have demonstrated success in the vast number of cities that have used them. They are fostering safer and more comfortable riding conditions which have attracted unprecedented numbers of bicyclists diverse in age, gender, disability status, race, ethnicity, income, skill level. Perhaps most importantly, the designs have proved effective in reducing car-bicycle conflicts and crashes as well as pedestrian injuries and even motor vehicle occupant injuries lowering both crash-related injury and death rates.
- **NACTO's *Designing for All Ages and Abilities*** and ***Don't Give Up at the Intersection*** guidance, addenda to the NACTO *Urban Bikeway Design Guide* that are also peer-reviewed provide detailed drawings and guidance on how to accommodate a broad range of users depending on street typology and context, and how to effectively continue bike infrastructure through intersections to keep people on bikes safe at our streets' riskiest junctures.
- **NACTO's Transit Street Design Guide** is the only resource of its kind that guides transit agencies and street departments to create safe, accessible streets that accommodate on-street transit. The *Transit Street Design Guide* is a blueprint for the future of mobility in cities, providing the key for unlocking street space and safely moving people to where they want, and need, to be.
- **NACTO's *City Limits*** guidance provides practitioners with guidance to reduce speed limits in urban areas in line with their Safe System goals. Specific examples included in this letter demonstrate that the 85th percentile methodology included in 23 CFR (via the MUTCD) is preventing practitioners from reducing speed limits on high-crash streets, and in some cases is causing delays and cost overruns. Rather than using existing speeds, the *City Limits* method details how to establish appropriate speed limits based on conflict-point density, anticipated activity levels, and the degree of separation or protection provided to all users. Adopting this methodology would streamline the process and allow practitioners to set speed limits in line with safety goals. The methodology can also be used to check the appropriateness of a design speed/target speed, given these same conditions.
- The following additional resources also provide contextual guidance for bike and pedestrian accommodations on urban and rural streets, and should also be incorporated by reference into Title 23 CFR 625 in order to authorize their use on the NHS and Federal-aid projects:
    - FHWA Bikeway Selection Guide
    - FHWA Separated Bike Lane Planning & Design Guide.
    - FHWA Achieving Multimodal Networks guide.

- FHWA Small Town and Rural Multimodal Networks guide
- NCHRP 1036: Roadway Cross-Section Reallocation methodology
- ITE's *Designing Walkable Urban Thoroughfares*
- Ohio DOT Multimodal Design Guide
- MassDOT Separated Bike Lane Planning & Design Guide
- Washington State DOT Design Bulletin on Designing for Level of Traffic Stress
- Washington State DOT Memo on Complete Streets Implementation
- Florida DOT's Bikeway Design Standards
- Florida DOT Context Classification Guide
- San Francisco Better Streets Plan
- The Public Right of Way Accessibility Guidelines should be incorporated by reference, along with pedestrian LTS and bicycle LTS guidance, to provide designers with specific parameters for ensuring accessibility.

12. Does Part 625 create any impediments to developing projects that meet the goals of your agency? If so, what goals are impeded, what are the impediments, and how would you suggest the regulation be revised?

Part 625 adopts by reference the 7th Edition of the AASHTO Green Book. While this edition advances several important topics, including the development of context zones, and future editions may also better address bike and pedestrian mobility, the Green Book is and is likely to remain a motor vehicle-focused design standard for U.S. streets. The Green Book is useful for non-town rural highway design and for freeway design, where consistency is key to the goal of reducing the risk of high-speed travel. However, U.S. design standards have always struggled with urban settings. If intermediate NCHRP products are any indication, the 8th Edition of the Green Book may also struggle in urban and urbanizing conditions, in particular with questions of the allocation of the right-of-way or when access is just as important as throughput. Simply put, long-distance private motor vehicle traffic trips are prioritized over more common local trips, even within the contextual functional class system. But safe access along and across roadways, including for drivers, is a primary role of all urban streets. This mismatch between standards and project goals presents problems for jurisdictions and practitioners attempting to use Federal funds to add or improve pedestrian, transit, or bicycle facilities on NHS and Federal-aid streets. Several specific barriers include:

- Lack of clear guidance that 10' -11' lanes are preferable in urban environments. Since previous editions actively recommended 12' lanes in nearly all conditions, which encourage speeding and have negative effects on all-user safety, there is a need for more specific guidance to use narrower lanes.
- "Clear zone" clauses, which recommend "removing roadside objects or making them crashworthy." This means removing trees, light poles, or anything along the side of the road that vehicles might crash into, therefore making pedestrians and those on the side of the road more vulnerable.
- Peak Hour, Traffic Capacity and Level of Service (LOS) practices. In the absence of positive guidance from FHWA interpreting what is meant by "adequate to serve existing and future traffic," the guidance provided in the adopted-by-reference Green Book standard remains an unfortunately widespread practice even in the design review process. The Green Book describes a typical method of projecting traffic 'growth' 10 to 20 years into the future, estimating the vehicle

demand at the busiest 15 minutes of the busiest hour of the average weekday, and attempting to design enough vehicle capacity that LOS D can be provided in urban and suburban areas—the equivalent of no more than 35-55 seconds of delay for each vehicle at a signalized intersection. This benchmark and the many practices associated with it, codified in the *Highway Capacity Manual,* is frequently taken as a maximum acceptable level of vehicle 'delay.' FHWA can go further to limit the application of vehicle-only LOS in urban areas.

The Green Books standards around Functional Class and Networks also create impediments to developing Complete Streets projects. Street network decisions have a close relationship with the viability of transit as well as the resilience and total capacity of the street network for drivers. Generally, closely-spaced grids support walking and transit as well as bicycling for transportation, and relatively more productivity per acre, while disconnected networks within widely-spaced arterial grids support the opposite.

Substantial evidence shows the advantage of using connected grids of small and medium-scale streets if urban or suburban densities are anticipated, rather than the conventional postwar one-mile-square arterial grid. While access management concepts are important, the notion that major streets should provide little to no access to destinations is not effective in urban settings. Instead, grid development or restoration should be the goal of Federally-funded projects in urban areas. This practice relieves the pressure of a single facility to provide all throughput for all modes. NCHRP 855 begins to address re-linking cul-de-sacs in the non-motorized network, but does not provide guidance on the creation of grids. Even if this is usually a county or municipal responsibility, state-oriented guidance must support this work.

Jurisdictions cannot now recreate successful existing streets or learn from design innovation without obtaining permission through a potentially very lengthy, multi-level design review process. Well-performing streets around the country have features considered substandard or not recommended by the Green Book, despite having significantly better safety performance outcomes than many facilities that do meet existing Green Book 7 standards. When participating in Federal-aid projects, cities and states alike face the conundrum that the new design meet such 'standards,' some of which stand in direct opposition to pedestrian and bicycle safety or the success of transit service. Unless the regulation jettisons the concept of a standard, it will be necessary for FHWA to adopt guidance that includes a variety of lower-speed, urban-area design options for every type of street, regardless of vehicle network role or functional classification.

Operationalizing innovation in guidance is not easy, but FHWA, NACTO, and the cities and states themselves all have methods at their disposal to add 'developing standards' or design features that are not yet part of the full standards and manuals. For example, FDOT issues 'developmental standards' as needed, between editions of their state design manual; many states issue technical memoranda addressing new design features or even policy requirements. FHWA does as well, and can use such memoranda to temporarily amend the NHS and Federal-aid highway design standards without resorting to a full rulemaking.

Safety Performance Assessment Applicability

13. For which current projects (i.e., by improvement type, funding program/level, facility type, etc.) are safety performance assessments or analyses conducted in your State?

N/A

14. To what extent is the safety performance assessed on non-HSIP funded projects?

Most cities that use performance assessments (such as road safety audits, basic crash data analysis, conflict observations, and excess speed measurements) apply these techniques regardless of the funding source of the project. More typically, they are applied to any project, regardless of type or funding source, on a high-injury corridor or at a high-injury intersection.

15. What policies or procedures on conducting project-specific safety performance assessments and analyses does your agency have? Provide examples and citations to relevant laws, regulations, policies, procedures, or other materials where possible.

A common feature of international Safe System Approach efforts is a strong emphasis on the need for slower speeds due to the reduced kinetic energy that comes with slower speeds. The FHWA has correctly made Safer Speeds one of its five objectives of the National Roadway Safety Strategy, but only ten states have an emphasis area on speeding/aggressive driving according to the FHWA's Strategic Highway Safety Plan database (https://rspcb.safety.fhwa.dot.gov/shspsearch/statesearch.aspx).

Even within states with an emphasis area on speeding, many prioritize education and enforcement over taking a holistic approach to speed management. It is very rare for jurisdictions to consider how much of their roadway network is higher speed or set goals to achieve the recommendation of the World Health Organization that calls for speeds of 20 miles per hour (mph) where people biking and walking regularly mix with motor vehicles. Prevailing attitudes and procedures in the United States embrace the 85th percentile approach to speed limit setting rather than an injury minimization approach, making it difficult or impossible to reduce speed limits to 20 mph in many states. Implicit and explicit barriers to lower speeds exist in many states, with explicit barriers to 20 mph speed limits existing in at least Vermont (23 Vermont Statutes Section 1007), Georgia (Georgia Code 40-6-182), Massachusetts (Massachusetts General Laws Part 1, Title 14, Chapter 90, Section 17C), and New Hampshire (New Hampshire Statutes Section 265:63).

Conducting a Safety Performance Assessment

16. What methods, tools, and types of safety performance assessments are used to analyze project-specific safety performance? What are the minimum data and analysis requirements that should be considered on how to conduct a safety performance assessment?

Methodologies currently in use include:

- The *City Limits* method, which provides an actionable, easy system of categorization of streets based on their activity levels, density of conflict points, and degree of separation/protection of modes and movements along the street and at conflict points. Rather than attempting to predict exact crash rates, this tool uses the known relationship between crash injury outcomes, conflict types, and speeds to provide a method for speed limit (and target speed) setting based on the Safe System Approach.
- Crash Modification Factor-based analysis. Limits include a lack of research on cumulative effects or interaction among design features; FHWA has flagged this concern in the Complete Streets report to Congress.

    - Examples include the SAFID chart in intersection selection; primarily written for rural and lower-density urban conditions where land acquisition is possible, but its principles are also applied to urban street redesign projects using a 'narrow segment, wide node' method. Most of these designs prohibit or block some or all left turns at the primary intersections, a technique also applicable in many urban settings.
- 5-year crash data when evaluating before-after safety improvements on a specific project or across a city (See, for example: **Fort Collins, Colorado's** Safety in the City report)
- Conflict counts, which have become significantly more feasible as video analysis and detection have progressed.
- High-end speeding/percent of drivers exceeding the target speed by 5-10 mph or more.
- Detailed crash review for fatal and serious injury crashes, on specific streets or across a city (See, for example: **Chicago's** High Crash Corridor Framework Plan, which prioritizes projects according to high-crash intersections; and **Portland, Oregon's** High Crash Network (HCN), which is also used to prioritize projects)
- Severity / risk evaluation for corridor alternatives
- HSM modeling is in use in some cities. However, the assumptions in the HSM method make it difficult to apply to existing urban-core and urban neighborhood streets.
- Before-after vehicle speeds and volumes.
- Quantitative stakeholder input, including on-street intercept surveys.
- Qualitative stakeholder input on usability, including formal qualitative research such as focus groups.

Detailed example from **Milwaukee, Wisconsin**: Wisconsin DOT uses a Safety Certification Process (SCP) adopted from AASHTO Highway Safety Manual (HSM) analysis methods and an economic appraisal process on federally funded projects located on state highway routes within the boundaries of the City of Milwaukee. WisDOT's SCP uses network screening tools to identify locations that experience more crashes than similar sites; therefore, they have a higher potential for safety improvement. These "safety sites of promise" are then subject to a crash vetting process, predictive crash modeling, and economic appraisal (benefit-cost) methodologies, to identify and evaluate design alternatives. Additionally, The City of Milwaukee is developing a Complete Streets Handbook, which will include process and policy improvements around project evaluation, including safety performance. For most projects (other than routine maintenance), the City will collect and evaluate before/after crash data, with a focus on severe crashes (K and A) and crashes involving people walking and biking. On transformative investments or corridor projects the City also collects and evaluates motor vehicle speed data to measure speed decreases.

17. With whom do States engage (i.e. counties, cities, MPOs, rural planning organizations, and other political subdivisions) when assessing safety performance? How do States engage the public or use the safety performance assessment results to communicate to the public using inclusive and representative processes?

N/A

18. How are safety performance assessments integrated into the overall project development cycle? At which stage(s) of the project development process (e.g. planning and programming, environmental analysis, design, operations and maintenance) are project-specific safety performance

assessments conducted? Are evaluations conducted after the project has been implemented? Responses may include examples of projects where safety performance assessments were conducted and how they informed the final project deliverables.

One example is New York City DOT's Safety Treatment Evaluation (2005-2018), which shows injury and KSI reductions for many safety treatments including: Road Diets, Protected Bike Lanes, Pedestrian Islands, Curb and Sidewalk Extensions, and LPIs

19. How is safety performance assessed or considered at the system level planning or early transportation project identification/prioritization stage? How is network screening used to inform project decisionmaking?

The identification of high-injury corridors (often referred to as a high-injury network or HIN) has greatly assisted cities and other jurisdictions in prioritizing their limited safety improvement funds and, just as importantly, in coordinating the efforts of many distinct areas of practice ranging from signal engineering to geometric design. These corridor-based and sometimes neighborhood-based high-injury areas are especially important since agencies need to apply their resurfacing and markings efforts and signal operations work to these high-injury corridors. Notably, these are not lists in ranked order of which street will be improved first, but rather serve to make specific streets eligible for additional attention. Some cities prioritize the HIN in all project decisions, such that bicycle network projects or signal retiming projects are more likely to move forward if they are also on a high-injury corridor. Some cities also use their high-injury maps to screen the many public requests for street improvements that cities receive. For example, a city might prioritize the high-injury network in its speed hump program or its markings refurbishment program, and when receiving requests for such work, they would prioritize those streets on the HIN.

In most cases a simple metric can be used to identify the HIN. Severe injuries & fatalities per mile of street is a common measure. It is also often helpful to screen for streets with a high pedestrian/non-motorized injury rate per mile of street. The street mileage denominator is used in place of VMT or person-miles traveled because the goal is to reduce the total injury 'production,' rather than attempt to equalize risk to an average. Especially in the absence of real systemwide exposure data for people walking or biking, it is important to avoid using trips as a denominator. Additionally, streets are typically not compared within classifications or categories, but are compared to all streets within a city. This method is more consistent with a Safe System Approach because it avoids 'excusing' or ignoring streets that might produce slightly fewer injuries than other arterial streets but generate far more injuries than local streets.

Safety Performance Assessment Process Evaluation and Outcomes

20. What indicators or measures have been used to determine the effectiveness of safety performance assessments?

N/A

21. To what extent is the safety performance assessment or analysis used to inform project decisionmaking? How is safety performance weighted in relation to factors such as environmental impact or traffic congestion? Are there requirements to include countermeasures or evaluation of alternative designs that are expected to improve safety performance? If yes, please provide examples

of the requirements or projects where the safety performance assessment led to the implementation of countermeasures and strategies that improved safety performance.

Using a high-injury network prioritization program, many cities have substantially redirected their resources toward safety projects, and have directed maintenance resources to those streets. Please see responses by cities for further detail.

22. How is safety performance evaluated after the project is implemented? To what extent are countermeasures, alternative designs, or strategies to improve safety performance replicated on other projects, based on past project evaluations?

The use of timely, inexpensive data types allows agencies to assess performance in nearly real time, rapidly communicate results, and quickly learn from projects - even applying lessons to projects that will be implemented later in the same year. Several best practices in before-after safety evaluation have emerged, and more will surely be developed as experience grows. These include:

- Excess speed or high-end speeding, which can be defined as the daily number (not percent) of drivers exceeding the target speed by at least 10 mph. (e.g., 35+ mph on a street whose appropriate target speed is 25 mph.) This number is focused on measuring one of the core risk factors for a street. It is more easily understood by the public and easier for practitioners to compare from one project to another than measure the change in 85th percentile speeds, since target speeds vary from one site to another.[9]
- Total injuries and injuries by person type, comparing at least one year after implementation to three years before implementation.

Safety Performance Assessment Implementation Considerations

23. What challenges or concerns does your agency see with possible Federal requirements for safety performance assessments on certain Federal-aid projects?

- FHWA should require that state transportation departments report year-over-year safety performance targets that decrease the number of people killed or seriously injured each year and the number of people killed or seriously injured per 100,000 residents, in each mode and demographic group. FHWA should not permit increases in KSI or risk per person as a goal. Every project should have a requirement to use fair performance measures (e.g., if a projection is made of future capacity / traffic / delay, projection of future crashes / severe injuries / deaths should also be made).
- Intersection Level of Service is still widely used when assessing lane reassignment or road diets, but numerous city practitioners have indicated that it should not be. Vehicle volume is also still a "make or break" metric for projects that would reduce vehicle capacity.
- While Crash Modification Factors can be valuable, there is an over-reliance on them in the screening and prioritization process. In part due to longstanding imbalance of the allocation or research funds through NCHRP, there are many fewer CMFs applicable to urban core conditions than to the better-funded and easier-to-study freeway and suburban roadway environments.

[9] NACTO. 2020. "Changes in High-End Speeding." *City Limits.*

- CMFs are also not available for bus boarding islands and certain other improvements that likely have similar benefits to other treatments, such as bulbouts. Cities have expressed interest in applying for grants that include CMFs in their scoring system.
- States should collect race/ethnicity data for crashes to enable cities to look into equity impacts within crash data; while MMUCC revisions might support this change, states will need support to implement it accurately.

24. What challenges or concerns does your agency see with possible Federal requirements for implementing cost-effective safety improvements resulting from safety performance assessments?

Requirements to implement cost-effective safety improvements, like other potentially beneficial requirements, may present procedural challenges on pass-through Federal-aid projects. For example, adding left or right turn lanes at unsignalized intersections are considered a safety countermeasure, but have the effect of making pedestrian crossings much more difficult. Converting a two-way-left-turn lane to a median with pedestrian refuges or prohibiting left turns also have large CMFs, and are typically more appropriate in an urban environment. FHWA would need to provide expertise, ideally both in the form of written guidance and in personnel, to oversee such a requirement.

25. What benefits does your agency see with possible Federal requirements for safety performance assessments on certain Federal-aid projects where safety may not be the sole motivation for the project? What benefits does your agency see for any Federal requirements for cost-effective safety improvements resulting from the assessments?

As most cities that use safety performance assessments already use them regardless of funding sources, a Federal requirement that also specifically directs that states provide planning funding and HSIP funding to cities to implement these assessments would have substantial benefits by expanding the number and quality of assessments that cities can conduct. Data collection, systematic observation, and site visits are not without cost, and being able to hire staff who can do these assessments is crucial. Without a requirement to assess safety there is no entry point for safety planning in many state-led projects. A requirement would go a long way to enable this.

26. What criteria, thresholds, characteristics, or other factors should States consider when determining when to conduct a project-specific safety performance assessment or analysis for projects on the Federal-aid highway system?

N/A

27. What additional resources (i.e. staff, guidance, tools, budget, etc.) would be necessary to adequately assess the expected safety performance of Federal-aid projects?

- Update Basic MIRE data elements to include sidewalks, bikeways, ped crossings, etc. https://www.ecfr.gov/current/title-23/chapter-I/subchapter-E/part-490/subpart-B
- **Adopt a Pedestrian Level of Traffic Stress threshold and a Bicycle Level of Traffic Stress threshold for all Federal-aid projects.** U.S. streets are in need of a pedestrian and bicycle facility standard. To meet this need, FHWA can adopt a Level of Traffic Stress threshold for walking or biking. Following the model used statewide by WSDOT, FHWA could adopt LTS 2 as the standard and require roadway owners using Federal-aid funds to meet Pedestrian/Bike LTS 2 or

better. Replacing or building an LTS 3 condition or worse would require a design exception. While this standard should ideally apply to all non-freeway facilities, it may be necessary to restrict its application to urban and metropolitan areas. If rural areas are excepted from this standard, it is important to include both small towns and micropolitan areas, as well as roads close enough to an urban area that urban growth might occur.

- Adopt Destination Access as a system performance measurement.