

AASHTO CPBM/TPM Pooled Fund Joint Quarterly Meeting Breakout Meeting Notes

December 2, 2021, 2PM – 4PM ET

Question 1: Why is this measure important?

Accessibility

- Accessibility is multimodal - not just the method for movement, but also the facilities that things are moved on.
- Accessibility is a "seed for equity" - and should be looked at beyond vehicles.
- Access to destinations is why DOTs exist. Accessibility measures provide an opportunity to more holistically represent what the DOT does.
- Rural areas and long distances are not transit focused as much as urban areas
- Is accessibility specific to multi-modalism?
- The revenues used for trans. investment funds are disproportionately generated by subsets of the user population i.e. car drivers fund other modes through gas taxes; i.e. we need to serve all users, not all funders.
- How long does it take a resident to access their job (by mode) from home? Can residents safely access the places they need to go?
- Does accessibility apply to freight as well as people? – Some agree, yes, it also applies to supply chains.
- Does tolling become part of the discussion / pay-to-play but if poor, there will be subsidies?
 - This isn't exactly about tolling.
 - Tolling has some cross-over with access. Cities have imposed core-access driving fees (aka congestion pricing) to limit some of the negative impacts commuters have on communities, but this also limits who can use the facility.
- The greater the accessibility the greater the quality of life, economy, competitiveness; being better at moving people and goods helps people and businesses.
- Travel time, cost of travel, cost of owning & operating a vehicle, and parking fees all have big impacts on accessibility. It is important to put accessibility in financial terms to illuminate our understanding of mode choice, how people travel, and equity.

Resiliency

- Need for increasing flexibility in planning
- Natural progression as we shift away from building new--regular maintenance and these additional needs.
- Part 667 coordination with TAMP
- Recognize role of climate change and sea level rising
- Performance of the network.
- Structures may become more vulnerable with extreme weather events.
- Allows us to continue with connections we have between different cultural and economic areas.
- Minimizes potential loss from natural disaster.
- Quick recovery from disasters.

Equity

- One of the things that we are tackling today in this area (equality and equity) what we are trying to do is to be fair. Equity may require us to treat people differently but in a way that makes sense. A

challenge to us as leaders is 'how do we look at equity in ways that make sense?' It's going to take courage, especially in a built environment, where actions have been taken in the past that impact where we stand today. Key question - "how do we do things that make sense?"

- It's not just about distributing funds
- Hard to assign a dollar value to this
- Accessibility and equity are highly linked
- Focus on what each community needs
- Stakeholder engagement - equity is one of the six key levels - measurement is important to how it's interpreted
- Financial resources are from the entire public - therefore benefits should be shared.
- We care about fairness
- Project level impacts aren't looked at systematically
- Traditionally under-represented communities are hard to reach - we need to make an extra effort to ensure broad input into planning and investment decision making - need to be non-threatening, learn how to engage, learn from other DOTs
- It is an area that lacks data and research - and a universally agreed upon approach for statewide application. Project level is pretty good.

Question 2: What are the key objectives for measuring this area?

Accessibility

- To understand the differences in the ways people prefer to travel, as well as their limitations in their ability to travel.
- Knowing what we have/how well it's working - better enables us to plan for the future.
- To be able to assess alternatives within the project development process.
- Evaluate how efficiently people are getting to their destination.
- To understand the investment decisions that need to be made - to enhance access through transportation
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- Accessibility Observatory has the best/only methodology for measuring accessibility.
- It is easy to overthink this measure until it's so complicated that it paralyzes analysis. How can anyone measure this anywhere in the nation? Start with a simple base, easy achievable, at least to begin with.
- Consider scope, is this at the state level or at urban areas of a certain size?
 - At MPO, national, and state levels, how do we conceptualize this measure? What does it mean if a single number could be used to compare different states, and what could we do with that if we had it?
- There are many perspectives on accessibility that will be ~hyper-local, so it's a pretty big issue to decide how to choose the metrics
- Metrics must be tied to each state's priorities and role
- Behind the scenes, there are some measures for the state level already, like accessibility in rural areas (e.g. in Florida) that explores how can states invest to improve access to those areas?
- Each state needs to consider accessibility and what that means separately based on its goals, funding, and abilities, which makes it a difficult thing to find a single measure for.
- What are MPO priorities where they straddle multiple states, must they satisfy two or 3 states at once?
- It is not just accessibility alone either, but accessibility with safety.

Resiliency

- Incorporate changes in design standards, shifting data needs, prepare for the future
- Safety and efficiency: events getting worse, don't want to have to keep rebuilding major infrastructure.
- Part 667 DDIR data analysis is helpful, good structure for doing this analysis over time
- Vermont far along on interactive Part 667 webtool
- Amount of down time due to destruction caused by extreme weather or terrorist attack.
- Speed of recovery until it performs as intended or needed.
- To get an idea of cost to become resilient and recovery effort itself.
- To measure the risk and what needs to be done.
- Schedule.
- Cost.

Equity

- Fairness is a key issue; measuring this is difficult, but should be one of the key outcomes
- Important not to repeat mistakes of the past, and think of not just doing the easiest or cheapest but the right thing
- Equity has to do with land use and other areas outside of DOT control
- We need to be in a position to be influential and we should be clear in our objectives so we can be partners and not just recipients
- We have a responsibility to ensure equity. Focus has been on minority/disadvantaged communities. We don't want to repeat the mistakes of the past. Need to focus on ensuring benefits are shared.
- The ultimate objective is anti-discrimination - a better objective is improving quality of life for all

Question 3: What are your concerns about measuring this area?

Accessibility

- Most of the (non-vehicular) data comes from local agencies - and there are challenges obtaining the data.
- That success in accessibility means an increase in congestion.
- Much of this topic was covered in previous discussions.

Resiliency

- Comparing apples to apples. When do you say a storm started and ended? A uniform approach may help.
- Broad topic: research, results of plans, analysis... how do you measure
- Collect data across different parts of DOT
- Is this resilience/risk management across major storms, labor needs, pandemics, attacks, etc? How do you summarize across these areas?
- The cost because sometimes it becomes more expensive to be resilient than to replace a roadway that has washed out, etc.
- Able to have a consistent system for monitoring infrastructure - making sure that each District or Region of State uses same types of measures to determine conditions.
- Consider network level analysis and level or different modes to respond.
- Common language between engineers, social scientists, etc. Incorporate environmental, social impacts.
- Ability to address resiliency areas proactively.

- What is the appropriate measure to define resiliency?

Equity

- Determining what is fair is hard
- Being able to define equity before developing measures.
- Unintended consequences - we can pick a number that becomes an objective that leads to second-order effects
- Looking for a national measure that is transferable is going to be challenging
- National metrics will be difficult to establish - concerns exist
- Lack of baseline data - where do you even begin?
- It's weaved throughout lots of processes and documentation, but how do we weave it all together - into quantifiable measures
- Raising equity by improving outcomes for select groups - or by improving outcomes for the collective - by lesser amounts
- This discussion is much more emotional than the other conversations
- We need professional expertise and support to facilitate these discussions
- These are hard conversations to bring up - many may be hesitant to bring this conversation up
- This is an extremely difficult area to measure quantifiably. We are so used to analyzing the other areas of our work. It doesn't work the same w/ equity
- How do we make everyone comfortable in this conversation?

Question 4: What will be the most challenging aspects of measuring this area?

Accessibility

- Authoritative data sources.
- Meaningful measures that the DOTs can affect.
- Learning curve with non-traditional data sources - lack of analysis tools that inform transportation decision making.
- A successful project would have to look at a number of potential measures.
- From one geographic area - to the next (one state vs another), accessibility implications could be very different.
- Moving from Project level indicators to statewide measures.
- Need information about destination - are some destinations more important than others?

Resiliency

- Clarity of definitions and purpose are essential first steps. Can't develop good measures without foundation
- NCHRP study Matt mentioned is working on these definitions
- What data sets to use? Engineering, geographic, district staff with on-the-ground knowledge...all these perspectives are important but differ
- Understand what strategies have worked before rushing into using whatever comes to seem like the latest new strategy. Understand short- and long-term strategies that have been used.
- Coming up with accurate measurements.
- Degree of resiliency.
- Is everyone measuring resilience?
- How are resiliency measurements defined?
- For example, because of event (natural disaster, etc.), you've got down time, cost, number of fatalities (specific to incident), traffic flow impact (specific to incident).

- Availability of historical data.
- Vulnerability analysis from resiliency perspective - what does that mean?

Equity

- Need to be cautious with a one-size-fits-all approach to equity.
- On the other side, does it get so granular that nothing happens?
- Looking at the past, impacts of past decisions have been different in different parts of the country. (Example, if we did something in the 1960s that impacted disproportionately on some communities and then try to correct that, what happens to the traffic you move away from that area)
- Addressing negative impacts - need to talk to the communities about what they consider to be fair.
- Public transportation is also part of the discussion.
- Difficult discussions - there are emotional elements - can be charged due to how/where existing facilities have been established
- Public may also fear or expect government bias/pre-decision and shut down or limit their meaningful involvement
- Lack baseline data - how do you begin?
- No commonly accepted definitions
- Current focus is project level through PI and EJ compliance/NEPA - this is an impact analysis where the community and current socioeconomic condition is treated as an existing condition
- DOT staff may or may not be trained in outreach to hard to reach communities/ethnic groups - may have limited understanding of culture

Question 5: How can DOTs impact the outcome for this area?

Accessibility

- Local Agencies have great control over land use - DOTs would need to figure out their role in informing better land use decisions.
- Locals may prefer pass-through funds - DOTs should leverage that.
- State DOTs are the stewards of federal money and many types of grants for many projects. We (State DOTs) have the power to distribute monies, and we can tie these dollars to our priorities. The most challenging part is balancing the different modes by different density environments (e.g. rural vs urban), and it is hard for a state to be responsible for such disparate objectives. Who are state DOT's customers in each area, what is expected of them?
- What could be a high-profile task that helps to make this happen, a way to push new ways of thinking about our systems, vehicles, and freight?
- DOT values are at the root of it. When safe roads to schools first came out, it trickled down to checkmarks of where we could get the most benefit. We need guidance on high-priority areas where states can focus and bring (and identify) certain things to certain areas.
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- In asset management, a few years ago we tracked how paraplegics could get to hospitals unassisted... at root this is ADA but it overlaps with accessibility too. How else can this tie into the other priorities and PM programs?
 - Yes, like is there a link between pavement performance metrics and accessibility?
 - Many metrics, such as person-miles traveled don't help at all with understanding accessibility. This is similar with other metrics.

Resiliency

- Responding at time of storm
- Pre-storm -for example debris-prone location clearing in advance

- Post-storm broader rebuilding/re-thinking
- Building into capital program: where are the most impactful opportunities?
- Review hydraulic requirements for bridges and adopt new set of standards.
- Be proactive working with your state climatologists and their projections for extreme weather.
- Incidents response plan involving different groups. Having everyone identified and practice - knowing who is in charge.
- Have a comprehensive program and plan of action in place. Be proactive, rather than reactive.
- Identify hazards (flood, climate change impact, etc.) to predict climate change impact on infrastructure.
- Implement mitigation strategies for natural disasters.
- Review design standards for structures most impacted by natural disasters.
- Funding - question is why should we put funding toward issues that have not yet occurred? How do we get beyond that? Benefit cost? ER funding.

Equity

- Be consensus builders; get out ahead of these discussions in our states - we have the reach (in transportation) to do this
- Make this a feature of how we thinking about transportation improvements, just like planning and design criteria
- Within the DOTs, have leadership be a champion for this topic.
- How do we integrate equity into our processes so that it becomes real, how will it really live?
- Bring in professional expertise
- Sharing hiring statistics - being transparent in general - with the people at your DOT
- Diversity in hiring/staffing
- Public facing information in spatial format - ie. ADA pathways
- Adopt proactive approaches to equity in investment decision making

Question 6: What are potential measures in this area?

Accessibility

- Accessibility to non-personal automotive modes.
- Increase in multimodal asset capacity.
- Accessibility "in the right place".
- Accessibility impedance.
- From Seattle on priority of accessibility:
 - Sidewalks that are in proximity (1/4 mile) to important and high demand facilities are prioritized in Seattle using the ADA guidance:
 - 1) government facilities (community centers, libraries, parks, social services, schools),
 - 2) transportation (transit stations and corridors)
 - 3) medical facilities (health services/hospitals)
 - 4) employment centers plus senior/disabled housing
 - 5) residentially zoned locations.
- Potential measures and goals
- Metrics are the key
- Many economically challenged rural areas are not retaining industry, there are fewer and fewer job opportunities to sustain services for the legacy populations. In a small town, if all of the local grocery stores close, what happens to the elderly population left? What happens if they do not have access

to taxis and so forth? There are very limited options for rural areas, but this is an important constituency nonetheless.

- Accessibility is not a static situation. As an example, with the pandemic, things change, places close, how do we keep accessibility programs current and adaptable?
 - Work completed by the University of Minnesota is a good start
 - They have “cumulative opportunity access maps” like how many destinations of a certain type can be reached within 60 minutes, maps by mode, stress-free biking, walking, car, bus, etc. But how land use and availability all change over time is really an important question. It leads into the next question of: how are our investments making a difference? If we increase funding for, say, bike lanes, what would it accomplish? We want to see trends over time.
 - One criticism of the university work: your ability to reach a job is not necessarily a job you want or are qualified for. How do we match access to jobs that you can perform and want to perform? What is measurable vs. what is meaningful? Furthermore, what can DOTs actually control and use to effect change (on a road, can buses, freight, sidewalk, protected bike lane all follow that path)? Measuring and affecting accessibility needs to be done in an area that DOT can control.
- Existing limitations of targets for existing PM1,2,3 reveal some of our frustrations. We have no ability to affect travel time or safety PMs in the short term because investments are programmed so far in advance. My 2- 4 year targets are too short; we need to find a way to make this acceptable to [rule makers].
- Are there consequences for not making targets?

Resiliency

- Preparedness: don't forget to look upstream, up-watershed, coordination with land use to keep us from having these expensive damages
- Recognize this gets outside direct control of DOT but coordination is extremely important for effectiveness
- Separate resilience pot of funds - understand new law
- Figure out where to start, and also repercussions of what you do for other areas - for example what will this change do to the next bridge downstream?
- Different levels of thinking, outcomes and outputs, What would a stage 0 measure look like, then what might it look like in five years?
- Leading measures important but we rarely go back to validate to see if they indicated the way we thought they would. Needs data and time.
- Framework to develop meaningful measures that are in line with the maturity of the data and then how to evaluate.
- "Avoid stepping in the same cowpies over and over"
- Degree of resiliency.
- Is everyone measuring resilience?
- How are resiliency measurements defined?
- For example, because of event (natural disaster, etc.), you've got down time, cost, number of fatalities (specific to incident), traffic flow impact (specific to incident).
- Availability of historical data.
- Vulnerability analysis from resiliency perspective - what does that mean?

Equity

- We can identify areas (race discrimination, age, gender) and think about percentage of funding spent in each category
- From a modality standpoint, time of commute or distance of commute, ratio of time to distance - somehow contrasting what a community is, what does it take somebody to have access to the

economy? Technology is likely to enable us to measure access for example - to measure the impacts on individuals and access to the economy.

- Look at costs and what it compares to their income. (Example, annual transportation costs as a percentage of their income)
- Maybe measure progress toward a mutually agreed set of needs (plans, projects, etc.)
- Measure degree of involvement of different constituencies.
- Constituents care about how well we deliver on things that they have been involved on (projects they have contributed input on).
- Consider research on the mobility/accessibility dynamic to establish some kind of outcome measure (even though state DOTs may not have direct impact on those outcomes, we could look at whether we are 'moving the needle' toward improved directions)
- Existing: EJ Data - Minority and low income. Illinois also has "economically distressed" areas
- Future
 - Universally applicable national metrics will be difficult to establish

Need data sources broader than EO EJ definitions - could consider transit data (paratransit), other poverty data (school vouchers), formally adding populations to EJ data set (disabled),

- Define success from a statewide public involvement standpoint
- Project distribution
- Safety data - data analysis to determine if safety solutions are focusing on and benefiting all populations.
 - Emissions analysis that factors impacts/benefits to traditionally disadvantaged

Question 7: What goals could be set for these measures?

Accessibility

- Good question.
- Increase in multi-modal capacity.
- Usage and or stakeholder satisfaction
- Value added

Resiliency

- Become more resilience
- When you made an investment, did it accomplish the purpose--for example respond faster next time, inform people so they could respond better, bridge withstood a similar big storm the next time?
- Measures-data-information-wisdom: better understand and therefor be able to improve the work being done. Have better information for future decision making. Did it shape future actions?
- Start with inventory of vulnerabilities in State and cost in risk assessment.
- Percent of vulnerable assets programmed or measured, with goal of getting to 100% eventually.
- To revise the design code for infrastructure design.
- Reviewing future design years.

Equity

- Candidate - Achieving the outcomes of what the community we are involved in are looking for
- Using ADA compliance analogy, "zero percent non-compliance" - maybe a yes/no rather than a relative target.
- Equal/fair/broad opportunities for participation
- Learn from the cities - local agencies
- Transit operators naturally cater to populations that may be the focus of equity concerns

- Define and set goals for what is equitable

Question 8: What are the most significant barriers to implementation?

Accessibility

- Dialing in on priorities.
- Getting meaningful and authoritative data sets.
- Moving from project to enterprise/programmatic analysis tools.
 - Agreeing on the measure(s) that are meaningful and/or transferable across many geographies.
- Gauging the appetite for investments - the immediate response will likely be "trade-offs will have to be made", but how do we steer it to "value can be added".

Resiliency

- Wrong action built on information we have: not getting data mature and validated enough to serve as a basis for decision-making. Become so focused on impact/outcome that we don't review processes enough.
- Not enough patience and time put into data analysis
- Have a lot of data but don't necessarily use it well, know all the resources
- It takes time to see change
- Storms differ, they're not uniform stresses
- It's hard to take a break from putting out fires to reflect, learn, and lead
- Need right people in right roles and levels
- Slot issues and decision making to correct level/people
- Difficult to assess a complex system in two or three numbers in a meaningful way
- Example, if you measure scouring but the bridge is in a high-pressure point but no one is thinking about the location of the bridge
- Every new initiative goes to the same people when this isn't effective, efficient, or manageable
- Need more data analysts at DOTs, what other skill sets do we need for the future?
- We need people focused on how to do performance management and measurement rather than just using numbers. It's such a big field we miss a lot!
- One approach is hearing a hypothesis then using data to explore if it makes sense
- Data availability.
- Resources to do the work.
- Proactive funding mentality.
- Having some incentive for having States to do this, rather than having FHWA come in after to fix it.

Equity

- Get some consensus on definitions in measurable terms (also feeds the next steps)
- We're somewhat behind and need "baby steps in a hurry"
- We will have to overcome cynicism based on things that have been done in the past
- We need to do things that make sense and then need a performance tool that backs up doing those things that make sense.
- We need to understand what the law is doing - need feedback from the administration as to what direction they would like us to work toward
- Data, definitions and goals
- Effective public involvement specialists are often local/leaders

Question 9: What next steps could be taken?

Accessibility

- Need some research into what value accessibility provides.
- Guidance on performance based-target setting for accessibility - would likely need to be focused on beneficiaries.

Resiliency

- Communication, manage expectations, awareness of challenges, addressing the challenges at a leadership level
- Consider skill set needs, appropriate staffing, more workshops and trainings
- Don't work in silos - work in a unified manner on resilience
- Database structures - separate or coordinated, and across which efforts? Ex TAMP and risk
- Understand impacts of new law to existing programs as well as understand new programs or expectations
- Expectations of high levels, but also what do our stakeholders expect to see from this new money and programs?
- Prompt guidance from USDOT on their expectations
- Dissemination of research
- Communication, manage expectations, awareness of challenges, addressing the challenges at a leadership level.

Equity

- "Baby steps in a hurry" (We need to get ahead of this) - our partners are moving already and making decisions. Equity is being built in to grant applications
- Targeted outreach to communities that have been impacted in the past - to overcome the cynicism and skepticism due to the way we have done things in the past.
- Talk to people in the administration to make sure we are all heading in the same direction and what they are looking for us to do
- Connecting with the Civil Rights Committee and AASHTO leadership.
- Have a conversation with local officials and communities about what has been done well and areas that we could have done better in
- Just do it - set definitions, goals, develop a process and give it a try
- It may be a living process - adaptively managed as we learn more and collect data
- Listen and make public involvement meaningful - even if non-consensus occurs folks need to have the feeling they've been listened to
- Be open to input and assistance from non-A/E transportation planning firms and practitioners - could be NGOs, Disabled Community or organizations, ethnic groups or leaders