SHIFT 2020 Workgroup – Minutes
10/19/2018 - Rm 512 - 9:30 a.m. - 12:45 p.m.

Attendees

Last Name	First Name	Representing
Allen	Charles	KYTC – Highway District 4
Asher	Jill	KYTC - CO Design
Balaji	Jayalakshmi	KYTC – CO Planning
Blackburn	Jason	KYTC – Highway District 10
Chaney	Larry	KIPDA
Chen	Mei	KTC
Harrod	Justin	KYTC – CO Planning
Higdon	Tonya	KYTC – CO Planning
Hulker	Daniel	KYTC - CO Planning
Jones	Travis	KYTC - CO Program Mngt
Mills	Deanna	KYTC – CO Planning
Moore	John	KYTC – State Hwy Engineer's Office
Norman	Anthony	KYTC – DEA/Planning
Pelfrey	Mikael	KYTC - CO Planning
Reynolds	Jonathan	KYTC – CO Planning
Ridgeway	Nathan	KYTC – HSIP
Rogers	Joshua	KYTC - CO Maintenance
Ross	Steve	KYTC - CO Planning
Shive	Chad	KYTC - CO Maintenance
Spencer	Amanda	KYTC- CO Planning
Thelen	Jeff	NKADD
Thompson	Travis	KYTC – Highway District 5
Thomson	Scott	KYTC – CO Planning
Vaughan	Eileen	KYTC – CO Planning
Witt	Thomas	KYTC – CO Planning
Zhang	Xu	KTC

Summary of issues for further consideration or action

- Congestion component: Eileen Vaughan suggested the group tentatively approve the 2.2 version; the group will have the opportunity to review the data in more detail
- Benefit-Cost discussion: Nathan ridgeway will verify that the CMFs/SBFs for bike/ped and railroads are based on all crash types and not just for related crashes
- Jason Blackburn would like someone to send him the supporting documents on the KABCP costs; Jonathan Reynolds agreed to send him this information.
- Chad Shive will look at the new project improvement types again.
- Eileen Vaughan will send out a Doodle poll to determine the next meeting date.

SHIFT 2020 Workgroup Agenda
10/19/18
Rm 512
9:30 -12:30

Review / Questions

Congestion Data

Benefit Cost Data

Asset Management Data

Roadway Characteristics Data

Decision Lens Survey Results

Meeting Minutes

SHIFT 2020 Workgroup: Overview – by Eileen Vaughan
- Began with a review of what has been accomplished to date: Safety, Economic Growth, and Freight
- Reviewed what was expected to be accomplished today – which is to approve the formulas, then discuss criteria weighting
- Eileen has received everyone's write-ups and data – thank you!

<mark>Green highlighting denotes a vote/agreement on an issue from the Working Group</mark>

Congestion component discussion
- Mei Chen's file processed 3 yrs of speed data: 2015 – 2017 <mark>(the previous data was only 1 year?)</mark>
- With 3 years of data, if there was construction there would be a blip
- Presented 3 options to consider:
  - 2.0: 10% drop for each Functional Class (FC)
  - 2.1: FCs 1 through 3 receive 100%, then each FC afterwards would drop 10%
  - 2.2: each FC is discounted 5%
- Jill: version 2.1 puts the interstates to the top
- Charlie: thought 2.1 was fair, the project he was interested in is a principal arterial which wouldn't be discounted
- Discussions on Man O' War example
- <mark> </mark>Mei: felt that the length of the projects had the most influence, Man O' War example showed this; she could apply discounts for length and see how that plays out; <mark>delay per mile affects intersection projects</mark>
- Jason: is there a way to normalize this?
- Scott: weighted by volume, Mei agrees this could be done
- Mei: commented that not all interstate ramps have volume counts so these were not included
- Amanda suggested he group vote
- Charlie: stated he liked 2.2 the best because his projects didn't measure well with the interstates
- Jason: thinks 2.0 is best for his projects but supports the 2.2 decision with Charlie
- Larry: is neutral with the various versions
- Jeff: supports 2.2, cited his KY 536 project
- Travis Thompson: 2.0 and 2.2 are close, cited his I-265 project
- Eileen suggested the group tentatively approve the 2.2 version; the group will have the opportunity to review the data in more detail
- The Graves County project was the project previously discussed that had construction and had scored oddly
  - Question came up: should there be a CHAF on a route that has construction?
  - Jason: they're doing minor spot improvements when it need widening
  - Scott: the models will always have some degree of noise
  - Suggestion: if there are false positives, edit these out through the use of boosts

- 12 miles of parkway = 1 mile of New Circle Road; Mei suggested the hourly factors have a significant impact: the parkway traffic if fairly uniform while New Circle has great hourly variation
- Jonathan: suggested adding a flag for capacity: 7800 vph x 4 lanes does not equal a capacity issue = flag
- Eileen: method 2.2 is tentatively approved and all will look at the data
- Travis Thompson: does it makes sense to do 10% drops on congestions and count differently for safety?

Scaling discussions

- The discussion centered on scaling/normalization (light grey line on the diagonal) vs showing the magnitude/gaps (purple line)
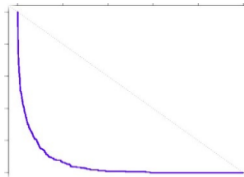
- Reg Souleyrette didn't think the curved graph served SHIFT's scoring purpose well and recommended including a 1 page project summary when the gap was large
- John: the scoring needs to show a comparative measure, not necessarily a magnitude measure; supports providing a 1-page summary of the magnitude
- The Workgroup agreed to keep the scaling and provide a 1-page summary for projects with magnitude differences

Benefit-Cost Discussions – Safety Benefit Factors
- Secondary improvement types, like bike/ped, may inflate costs
- Options: SBF1 + SBF2; or SBF1 + ½(SBF2) or other weighted %
- Travis Thompson: supported idea as it did well for bike/ped; if you're taking a little more right-of-way for bike/ped it gets a boost
- Jason: this is a way to account for bike/ped in the process; depends on honesty, yes, one can game the system
- Nathan: is the Safety Benefit Factor (SBF) for bike/ped for all crash types? Yes.
- Amanda: Is using more than 2 SBFs appropriate?
- Nathan: at the Planning level it is difficult to define what is appropriate
- Jason: has issues with the SBFs for railroads and bike/ped; we are improving *all crashes* 2 miles away?
- Thomas: being able to choose 2 improvement types can also gain you additional points for travel time savings and safety benefits
- Charlie: has an intersection with a J-turn which has benefits for both congestion AND safety
- John: concerned with arbitrary weighting; not defensible
- Larry: concerned with dismissing a 2nd SBF
- Jason: suggested going back to the HSM method of multiplicative CMFs: CMF x CMF x CMF x…
- Nathan: SBFs are already averages, multiplying CMFs makes the grey area bigger
- Jason: would like to verify that the CMFs/SBFs for bike/ped and railroads are based on all crash types and not just the bike/ped and RR – specific crashes; suggested going back to $(1-CMF_1)(1-CMF_2)$
- John: agreed $(1-CMF_1)(1-CMF_2)$ was defensible
- Jason called for a vote and all agreed to use $(1-CMF_1)(1-CMF_2)$ providing the CMFs were for *all crashes*

Benefit-Cost Discussions – Travel-Time Savings (TTS)

- Scott/overview:
    - There are numbers all over the place; Modal is still looking at it
    - They didn't change the modeling at all
    - Travel time savings for trucks were calculated separately and added together; same numbers, just in different spots, same units
    - Theory: less projects to model and all projects go through HCM, then the larger of the 2 results will be used
    - If the result is a negative number, then Modal will look at the modeling closer; many of these came out as a coding error
- Travis Thompson: if the project is a road diet, capacity decreases – these will get a zero TTS, not go to negative? He thinks they should be negative
- Eileen: a negative or zero are the same with scaling – it puts it at the bottom of the scale, it is scaled first because of this issue
- John: is of the opinion that when both (SBF and TTS) are negative then they can be combined
- Jason: feels a negative TTS should be subtracted from a positive SBF
- Eileen: the SBF is typically a higher number, the range of SBFs are very different than TTS, that is why she likes scaling them separately – that way one doesn't overwhelm the other
- Amanda: proposed weighing these on the same scale as the overall weights of safety and congestion: 20% and 25%
- Thomas: the TTS models aren't sensitive enough: loss of TTS will be minor when swapping a 2 lane with a TWLTL
- Jill: access management and road diets slow traffic; you have to go further for your access
- Eileen: is the Workgroup good with the TTS? Yes.
- Should we weight the same as the statewide and regional weighting? Yes.
- Jason: are we still putting too much emphasis on safety? Is his good or bad?
- Scott: throttling TTS keeps the safety emphasis higher; faster traffic increases the number of crashes
- Jason: observed that congestion should be more of a statewide issue than safety; safety should be more of a regional issue
- Eileen: the costs associated with crash severity weighs safety higher, effectively 90/10 last time
- Jason: would like someone to send him the supporting documents on the KABCP costs; jonathan agreed to send him this information.
- John: reiterated he wants the decisions defensible no matter what the costs associated with crash severity are
- Motion to weigh SBF and TTS 50/50, passed.

Asset Management

- The only change was to update the treatment year for the pavement measure; using Pavement Distress Index (PDI)
- Chad talked to Jon Wilcoxson about what data Jon used on the rural secondary roads, Jon didn't recall, Chad suggested using an average repaving cycle; for the few projects that doesn't cover, the photolog can be used

- Jason: does pavement typically dominate the bridge asset management score? Yes.
- Eileen: it is possible to scale the bridge score prior to taking the highest of pavement or bridges
- Jason: does a chip seal bump/reset Jason's projects? Chad: a microsurface (chip seal) doesn't get a pavement to a full cycle, just an extra 3 years, pavement needs to be in fairly decent shape for a microsurface treatment; the PDI cap (0.687) ensures anything that is over the poor threshold gets the maximum score
- There are still issues about knowing what asset management work will be performed with which improvement types, ie does major widening always include overlay of all lanes?
- The districts may need to reconsider their descriptions and milepoints: is the project 12 miles of reconstruction or 3 intersections over 12 miles? And will the bridges receive maintenance?
- Should we consider adding a check box is bridges will be worked on and pavement overlayed?
- Jason: agreed this should be considered but is unsure of the entire scope of the projects
- Amanda: we need to know if the load rating of a bridge will be improved or all lanes will be repaved
- No good mechanism or link between project types and improvement types; it is not too late to take another look at the improvement types
- Thomas: SHIFT isn't really geared for asset management
- Jason: but regular asset management reduces project costs so it has an effect
- Chad: the goal is to give boosts to projects that will reduce asset management costs; Chad will look at the new project improvement types again

Eileen noted that the time was 12:45 p.m. and the Workgroup had not eaten lunch yet. She will send out a Doodle poll to determine the next meeting date.