

ISOAP Webinar Training Questions and Answers – December 17, 2024

- 1. Can you elaborate on what you would like to see as part of the HSM analysis in Stage 2? Is Caltrans planning to update their HSM Application guidelines (March 2023)?** If the Highway Safety Manual (HSM) is applicable, then a cost-benefit should be calculated for each intersection control strategy. There are plans to update the current HSM guidance. When HQ Division of Design (DOD) released the guidance titled “Application of the HSM Methodology for Project Development (2023),” “Reserved” sections were included for forthcoming sub-topics. One of the “Reserved” sections is for the Project Alternative Analysis Process. Applying the HSM specifically for the various intersection control strategies would be included under this forthcoming “Reserved” section. Currently, there is no time or date set for development and release of this guidance; however, much of the guidance will focus on the roadway segments portion of the HSM analysis as only analyzing the intersection portion of a project is a more simplified process.
- 2. Mainstreet communities in rural areas often advocate for roundabouts as a traffic-calming measure, what is Caltrans and FHWA policy on allowing local communities to install roundabouts on Class I roadways if they obtain funding? With signal warrants or not?** Roundabouts are a well-proven safety countermeasure and effective speed management (traffic calming) strategy, and they may be placed on any type of roadway other than a freeway mainline to address a broad range of transportation needs. Each specific location and proposal shall be evaluated on its own merits with regards to the context, design vehicle, design features, and effect on all road users. The consideration and installation of roundabouts are not subject to, nor governed by engineering study warrants because they are among the broad range of other intersection control strategies which are less restrictive (impactful) than traffic signals and All Way Stop Control (AWSC). See Section 2B.07 of the California Manual on Uniform Traffic Control Devices (CA MUTCD). Note: The objective of traffic signal and AWSC warrant studies is to confirm the existence of a safety or operational “need” which justifies the significant ongoing traffic impacts associated with signal and AWSC installations. The installation of improvements such as left-turn lanes, raised median refuge islands, lighting, and roundabouts are justified solely on the basis of engineering judgment and studies that estimate safety and operational performance benefits against installation costs.
- 3. Two scenarios. With signal warrants or not.** Signal warrants do not need to be met for a roundabout to be considered. In fact, engineering warrant studies do not need to be performed at all to consider, evaluate, and install a roundabout. Engineering judgment by itself is all that is needed to decide whether a roundabout is an appropriate solution alternative for a particular location.

4. **Is PHB replacing HAWK?** A pedestrian hybrid beacon (PHB) and a HAWK (high Intensity activated crosswalk beacon) are the same device. However, PHB is the preferred and official terminology that should be used.
5. **Do you expect a report or memorandum to accompany the ISOAP Forms? Or will the form be adequate by itself?** A report or memorandum is not required, though a memorandum can be used as a transmittal document.
6. **Mini and Modular roundabout are not accommodating STAA truck, right? ALL** roundabouts are to be designed to accommodate the appropriate design vehicle, include STAA trucks as necessary. Smaller roundabouts, including mini-roundabouts, may need to have a fully traversable central island to accommodate STAA trucks, though not all turning movements necessarily need to be accommodated, dependent on the land use and specific properties needing access.
7. **A quick-build at SR 191 and Durham-Pentz was placed to handle haul-out of burnt building materials after the fire in Paradise.** This quick-build roundabout was constructed as a Director's Order. It is large to accommodate the haul trucks and was not inexpensive. However, the concepts can be applied to smaller, more affordable roundabouts.
8. **What is the liability for installing roundabouts? Especially if they are not warranted?** All roadway features have potential tort liability. Roundabouts do not have warrants in the same respect that traffic signals have warrants in the CA MUTCD. However, they do require engineering judgment for proper placement. For design immunity, engineering decisions should be documented.
9. **Unless the designer is trying to create gaps, is a 22-MPH roundabout preferable to a 17-MPH? I think traffic can density from 33 MPH down to 22 without losing throughput past a point, but not below 22.** In general, a 22 MPH design speed would be preferable to 17 MPH and would provide smoother traffic flow. Reasons to consider the lower design speed may be to address restricted sight distances or provide gaps for skewed geometry. However, the lower design speed will be difficult to accommodate trucks without introducing blisters on the outside entries.
10. **Thank you for covering more affordable roundabout types. Do these types of roundabouts, especially the smaller diameter roundabouts, conflict with Page 15 of the new ISOAP guidance that states "Standard geometrics in the HDM and DIB 94 should be used in determining intersection footprints, including appropriate sizing of roundabouts."** There is no conflict as Index 405.10 of the Highway Design Manual specifically states that inscribed circle diameter (ICD) ranges referenced in the HDM are typical values and may be larger or smaller as site location constraints and performance checks will determine if the diameter is appropriate. In addition, Index 405.10 states that mini roundabouts may be an acceptable design for certain conditions.
11. **Can we go through the ISOAP process and still not proceed with the recommendation?** Yes, ISOAP provides a recommended intersection control strategy, but it is the Project Development Team (PDT) that selects the preferred

alternative for a Capital project, or in the case of an encroachment permit, the District Director has the discretion as to permitted improvements. The Project Report should reference ISOAP and the recommended intersection control strategy. An explanation will be needed if the recommended intersection control strategy is not the selected project alternative.

12. Following up the above question, who makes the decision if it's for a TIR? A

Traffic Investigation Report (TIR) may initiate a Capital improvement project, in which case a PDT would be formed and become responsible for the selection of the preferred alternative. When a TIR initiates an Installation Order or Minor B project, the District Director has the authority to approve a change in intersection traffic control, though there may be a delegation of responsibility to a lower level.

13. The CAP-X includes many more options compared to SPICE. How should we handle the preliminary safety assessment when SPICE doesn't have as many control options?

CAP-X and SPICE may be used as tools, but engineering judgment should also be used as to what intersection control strategies should be considered. The preliminary safety assessment may be qualitative, such that other intersection control strategies may be evaluated on the number and types of conflict points.

14. Adjusting signal timing might improve operational performance of the intersection. Why is ISOAP not needed in this situation? Thanks!

ISOAP helps guide investment decisions for intersections. In the case of adjusting signal timing, the cost is typically insignificant.

15. Is ISOAP analysis mandatory for all federal and state funded project? Is ISOAP requires for projects that are currently in PA/ED phase?

Applicability of ISOAP is not dependent on the source of project funds. If a project is currently in PA&ED and ICE has been completed, then ISOAP does not need to be done. If ICE has not been completed, then ISOAP should be done, but the District ISOAP Coordinator should be consulted if ICE was already in process.

16. What is the typical source for the collision history?

The district Traffic Safety functional unit should be contacted for the collision history. Typically a collision summary, including collision rates, is provided. A CPRA (California Public Record Act) request will be required if requested from outside Caltrans. The Transportation Injury Mapping System (TIMS) can be used to get some rough information as to where collisions have occurred.

17. When do we need to/when would you like local agencies to consult with Caltrans on the process? Does it depend on the project funding, or the road classification? For example, if locally funded on a local road, will you formally consult approve or just informally upon request?

Early consultation with the District ISOAP Coordinator is strongly recommended to determine the information, specific alternatives and process steps required to complete an ISOAP study. When a change subject to ISOAP is proposed, the district Planning staff should be engaged through Local Development Review. Ideally, local agency General Plans and Caltrans Planning documents, such as Multimodal

Corridor Plans, would also include information about access on specific highways.

18. Some, if not all, of the Steps within Step 2 are part of either the TOAR or HSM analysis. Do we need separate documentation for ISOAP that combines the results of these analyses, or will these two documents in their current form suffice?

The Traffic Operations Analysis Report (TOAR) is comprehensive document that addresses all aspects of traffic operations, including freeway mainline operations, signal progression, truck turning templates, and intersections. If the information in ISOAP Stage 2 is already contained in the TOAR (Traffic Operations Analysis Report), then the TOAR could be referenced in the ISOAP documentation to minimize duplication of work. Conversely, if ISOAP is completed and the TOAR is in process, then the TOAR could reference ISOAP. If the scope of a proposed project is only intersection improvements, then the TOAR and ISOAP documentation could conceivably be the same document.

19. Are there any approved ISOAP documents to use as reference documents when preparing new assessments? An example ISOAP documentation will soon be posted on the Caltrans Traffic Operations ISOAP website.