

Using Safe Systems Approach to Assess Traffic Impact and Land Development

Traffic impact analysis (TIA) is an important element of development review, influencing how transportation systems are planned, funded, and built. However, little attention has been paid in research or in current practices to TIA's relationship with road safety or its potential role in shaping safe systems.

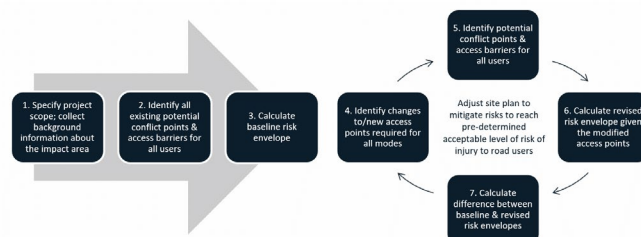
This project comprised two components. First, the team spoke with TIA professionals and developers across the southeast to uncover perceptions and misconceptions on the role of safety in contemporary TIA practices, to understand barriers to centering road user safety in TIA, and identify leverage points for integrating road user safety into contemporary development review practices.

The research team found that conventional TIA practices tend to conflate congestion mitigation with road user safety and advances solutions with negative downstream impacts on both safety and mobility for users of non-car travel modes.

The second component introduces the "Safe Systems Traffic Impact Analysis Framework," or SafeTIA. This framework is meant to guide planning and engineering professionals through the process of identifying, measuring, and integrating safety into existing TIA practices. SafeTIA is based on insights drawn from the analysis, and comprises eight steps that parallel and complement conventional TIA practices:

1. Specify a project scope and collect background information.
2. Identify existing conflict points and accessibility barriers for all road users at the site.
3. Calculate a baseline risk envelope for all potential road users.

4. Identify new/modified access points for all potential road users.
5. Identify new potential conflict points and accessibility barriers for all road users.
6. Calculate a revised risk envelope
7. Calculate the difference between baseline and revised risk envelopes.
8. Adjust site plan to mitigate risks to reach pre-determined acceptable level of risk of injury or death to road users



This research lays the groundwork for future demonstration projects to apply, evaluate, and refine the SafeTIA approach and position it as a workable

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