Incorporating Equity Considerations in Transport Projects Evaluation: Developing New Measures

Abstract: Transport project appraisal is usually done using Cost Benefit Analysis (CBA). However, this method is limited in its ability to deal with equity issues. Furthermore, it has a built-in distributive mechanism that is biased, and it thus structurally favors transport improvements for highly mobile groups. In this work, we suggested to incorporate equity effects into CBA by replacing the "Value of Time savings" (VOT) with two alternative frameworks that can take into account both efficiency and equity considerations: (1) We use Subjective Well-being (SWB) measure combined with the ABM accessibility measure (ABA) and use an alternative measure, "Subjective Value of Accessibility gains" (SVOA), as the key benefit taken into account in a new evaluation method - Equity Benefit Analysis (EBA); (2) We apply the Capability Approach (CA), which is derived from the actual opportunities that people have, given their personal and social circumstances, to transportation. We use ABM accessibility measure to reflect person’s abilities to reach essential activities, by calculating it only for selected destinations, which contributes to travelers’ capabilities and use an alternative measure, "Value of Capability gains" (VOC), as the key benefit taken into account in CBA. The proposed new frameworks are demonstrated through synthetic case studies as well as a full scale, real world case study using the San Francisco Bay Area Metropolitan Transportation Commission’s activity-based travel model for different scenarios.

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