

ENVIRONMENTAL JUSTICE IMPACTS

The New Britain – Hartford Busway project offers exceptional benefits for transit dependent residents in the Hartford metropolitan area. It is estimated that 36 percent of the project's user benefits will accrue to households who do not own an automobile. This is a large share of benefits for the region's transit dependent population. While it was recognized early in the project planning stages that the busway would offer low-income Hartford residents a good opportunity for reverse commuting, the equity assessment conducted as part of CRCOG's environmental justice program also reveals other reasons. The assessment is summarized below.

36% share of benefits
for transit dependent
households

EQUITY ASSESSMENT OF NEW BRITAIN-HARTFORD BUSWAY

An equity assessment was conducted to determine how well the project met the environmental justice goals of the Capitol Region Council of Governments. The assessment is based on CRCOG's travel forecast model and user benefit data reported by FTA's Summit software. This general approach of evaluating the equity impacts of a project by analyzing the distribution of 'user benefits' was endorsed by CRCOG's Environmental Justice Advisory Board in May 2004.

Assessment Methodology. CRCOG's travel forecast model is used to forecast the impact of the New Britain Busway on travel choices and transit usage in the Hartford metropolitan area. The travel forecast is subsequently evaluated using FTA's Summit software, which calculates travel time savings attributable to the new busway. A key aspect of this process is the fact that the CRCOG travel model reports trip tables by both travel mode (auto versus transit) and by household type as defined by car ownership (zero-car households, single-car households, and multi-car households). Since the data is reported by household type, the Summit software can be used to estimate the travel time savings¹ (user benefits) accruing to each of the three types of household.

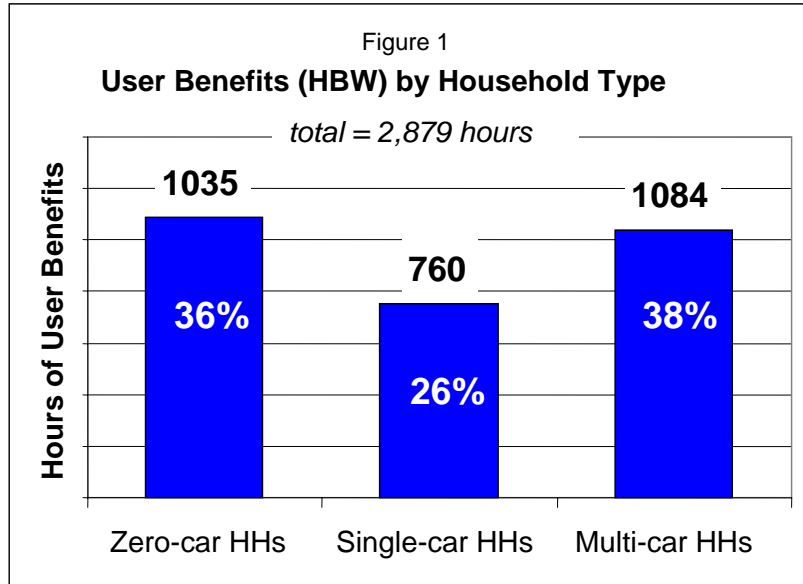
The calculation of travel time savings by household type allows a direct comparison of the level of benefits accruing to zero-car households (0-car HHs) as versus households who own a car. The combination of: (1) trip tables reported by car ownership group, and (2) Summit's ability to assess user benefits based on forecasted trip tables, provides an excellent tool for assessing the equity impacts of major transit projects such as the New Britain - Hartford Busway. Since a primary concern of CRCOG's Environmental Justice Advisory Board is to improve the mobility of the region's transit dependent population, the methodology is ideally suited to assessing how well each major project addresses this goal.²

¹ The Summit software actually captures more user benefits than simply travel time savings. However, other benefits such as cost savings are converted into an equivalent amount of travel time savings. By converting all non-time benefits into travel time units, Summit is able to calculate a single measure of user benefits, which makes comparative assessments much easier.

² The share of benefits received by the zero-car households is the primary focus of the equity assessment since they constitute the transit dependent population for purposes of this analysis.

Results of Assessment. The results of the equity assessment for the busway are presented in Figure 1. As the graph illustrates, the group with the second largest share of benefits is the transit dependent group. The zero-car households realize 1,035 hours of travel time savings each day based on their use of the proposed busway services for commuting to and from work.³ The 1,035 hours amounts to a 36 percent share of the total work trip travel time savings of 2,879 hours. Since zero-car households constitute only 10 percent of all households in the Hartford metropolitan area, this is a disproportionately large share of benefits from the proposed busway services.

By comparison, multi-car households are expected to collect a slightly larger share of user benefits. As a group, they will receive about 1,084 hours of benefits, or about 38 percent. While larger than the zero-car household share, it is a disproportionately small share given that multi-car households make up 57 percent of all households in the metropolitan area.



Geographic Distribution of Benefits. Insights into the reasons for the unexpectedly high level of benefits for the transit dependent can be gained by examining the geographic distribution of benefits in Figures 2 and 3. Figure 2 reveals two major clusters of zero-car household benefits: (1) the City of Hartford as expected, and (2) the City of New Britain, which is somewhat unexpected. There are 16,100 zero-car households⁴ in Hartford (36% of Hartford households) and the City is the hub of the Hartford bus system. As the hub, it has 100-percent service coverage and a high frequency of service. With these conditions, it is fully expected that Hartford's transit dependent population will gain a major advantage from a busway that is easily accessible and provides fast and frequent service to suburban employment centers.

In contrast to the City of Hartford, the City of New Britain has a significant, but smaller transit dependent population of 4,600 zero-car households (16% of New Britain households). It is the hub of the New Britain bus system, but the system is much smaller (11 routes versus over 30 routes in Hartford), offers less frequent service, and a shorter span of service. Despite these differences, both New Britain and Hartford gain the same 41 percent share of zero-car benefits (see Figure 4).

³ CRCOG's travel model does not report trip tables by mode by household type for *nonwork* trips, so the equity analysis is based on just work trips. However, zero-car households are likely to receive an even higher share of benefits for nonwork trips since multi-car households seldom use Hartford's transit system for nonwork trips.

⁴ 2000 Census

Figure 2
Distribution of Benefits for Zero-Car HHs

Over 81 percent of benefits are concentrated in Hartford and New Britain.

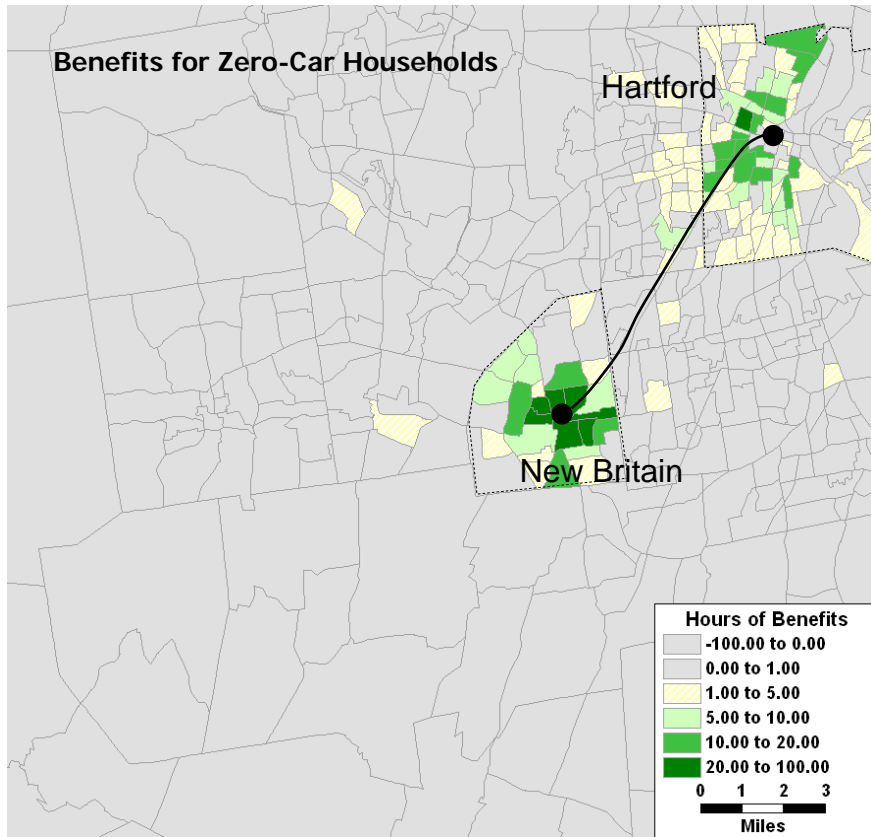
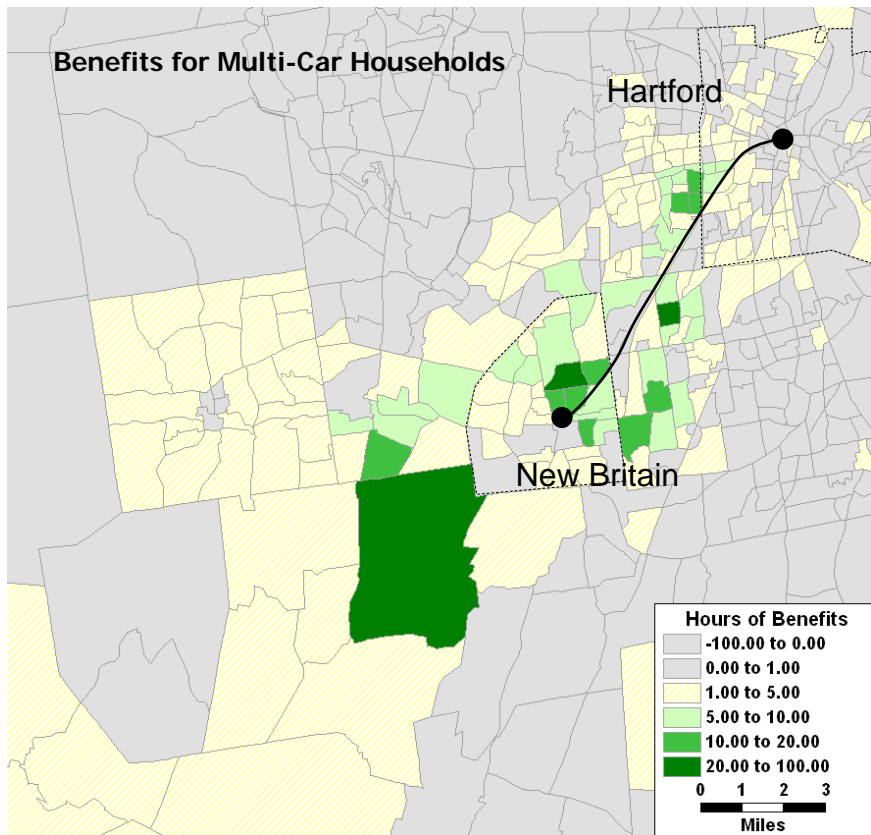


Figure 3
Distribution of Benefits for Multi-Car HHs

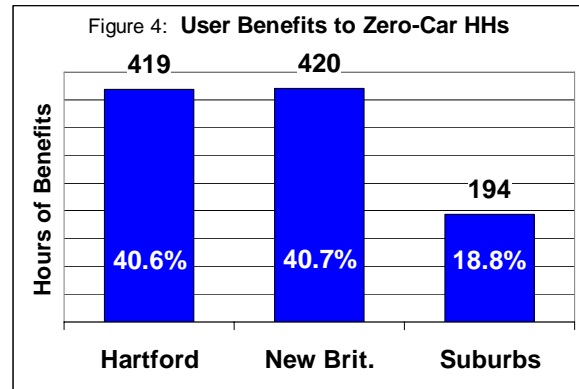
Only 26 percent of multi-car benefits are received by households in Hartford and New Britain. 74 percent accrue to suburban towns.



The large amount of benefits for New Britain residents can be attributed to several factors. Each is explained below.

4600 zero-car households in New Britain. With only one-quarter the number of zero-car households as Hartford, New Britain still has a large number of transit dependent residents. With 4,600 transit dependent households (16% of New Britain households), New Britain has the second largest concentration of transit dependent households in the area.⁵

Busway station will be hub of New Britain system. All 4,600 households have excellent access to the busway. The New Britain bus system is a radial system with its hub in downtown New Britain. With construction of the busway, the hub will be shifted about one block to the downtown New Britain BRT station. The relocation will give all routes direct access to the busway station.



Travel time to Hartford. New Britain residents will benefit from a dramatic reduction in travel time to Hartford. Neither existing bus service nor bus service included in the baseline alternative can match the speed of the busway service. The busway will reduce transit travel times from roughly 30 minutes to 20 minutes. More importantly, these time advantages will primarily benefit trips from New Britain to the major employment centers in Hartford. Both Hartford's CBD and its insurance and government district (located just west of the CBD) are served directly by the busway.

Single seat trips. New Britain residents will also benefit from several new single seat trip opportunities. Four of the New Britain routes⁶ that currently terminate in downtown New Britain will be extended to Hartford via the busway. The through-routing of these services to Hartford is being done to increase service frequency on the busway facility, but it also benefits many New Britain residents by eliminating the need for a transfer.

Increased frequency. Transit dependent households in New Britain will benefit from the increased frequency of service afforded by the presence of a key busway station in downtown New Britain. Every bus route that is routed via the busway will include a stop in downtown New Britain, which is the first station on the busway. All express route as well as all local routes will stop here. All existing routes that are being re-routed via the busway will stop in New Britain, as will all new routes created specifically for the busway. The result is that the downtown New Britain busway station will be a major new focal point for transit service in the region, and one that has excellent service to the region's primary employment center in downtown Hartford.

⁵ Hartford is the largest with 16,100 zero-car households (36% of it's households).

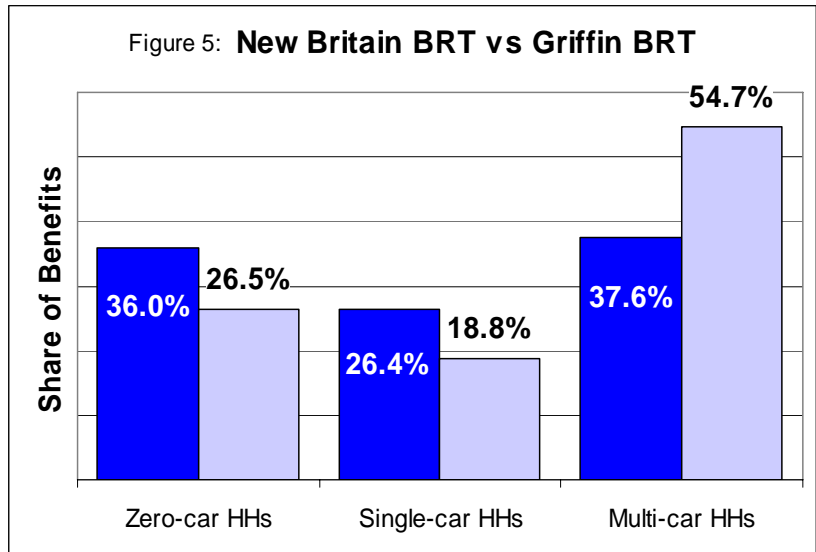
⁶ Burritt Street route, Bristol-New Britain route, Berlin-New Britain route, and Farmington Avenue route.

COMPARISON TO GRIFFIN BUSWAY PROPOSAL

A separate equity assessment was conducted for another busway proposal in the region – the Griffin Busway. A comparison of the New Britain - Hartford Busway results to those of the Griffin Busway gives further evidence that the New Britain - Hartford Busway offers a *special* opportunity to create a new transit service that offers significant improvement in mobility for transit dependent residents.

The Griffin Busway Feasibility Study was completed in the spring of 2004. It evaluated the feasibility of initiating bus rapid transit services in the corridor northwest of Hartford. While the conclusion was that investment in a full busway facility was not warranted at this time, the study results provide an interesting comparison to the New Britain Busway.

The Griffin Busway yields only half the total user benefits of the New Britain – Hartford Busway. However, of greater interest than the total benefits is the distribution of the benefits. In the case of the Griffin Busway, there was a significantly smaller share of benefits going to zero-car households. Transit dependent households receive about 26 percent of the benefits. While still a reasonable share, it is much less than the 36 percent share for zero-car households in the New Britain – Hartford Busway proposal. A complete side-by-side comparison is provided in Figure 5.



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The most striking difference between the two busway projects is the dissimilar ratios of benefits for multi-car households versus zero-car households. In the Griffin proposal, the share for multi-car households is 55 percent, or about twice the 26 percent share for zero-car households. This 2:1 ratio points out that the Griffin corridor proposal has a much stronger suburban commuter orientation. In contrast, the same ratio in the New Britain – Hartford proposal is about 1:1, which indicates that the proposal serves suburban and urban residents equally well.

The differences between the two busway projects lies primarily in the development patterns in the corridors rather than the service plans. In both proposals, attempts were made to provide good transit service to the Hartford neighborhoods through which the busway passed. However, the New Britain – Hartford project had the advantage of a second urban center at the outer terminus of the busway – the City of New Britain. By providing good access to the busway for transit dependent New Britain residents, the service plan was able to achieve a very equitable distribution of benefits.