

CAN COMPLETE STREETS CONTRIBUTE TO URBAN REVITALIZATION?

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Background and Introduction

In recent years, the term "Complete Streets" has become an increasingly important one in transportation planning. The term was first used in 2003 as a means to unify various street design concepts that put more emphasis on non-auto modes of travel. There is a growing consensus in the academic literature and among complete streets activists that there must be a shift from auto-oriented policies to multi-modal transportation planning to assist in the process of generating vibrant neighborhoods (For example see. Burden and Litman, 2011; Kingsbury et al. 2011). This is the focal point of the complete streets approach, where multimodalism is ranked ahead of single-use and accessibility is ranked higher than mobility. The main focus of complete streets policy is to balance access for all modes; including walk, bike, public transit and car (Burden and Litman, 2011).

Many North American cities have sprawled in the post-war period and in many cases central cities have been left behind that do not thrive in the same manner that they once did. Many municipalities are wondering about Complete Streets as one approach among several that might improve the fortunes of central cities. Another approach that receives a lot of attention, for example, is light rail transit and its potential to develop new corridors of growth in central cities. Complete Streets is certainly a more economical approach than LRT

but is it an effective approach in its own right? This is the question that we seek to answer here.

The spreading pattern of cities often called ‘urban sprawl’ has resulted in relative decline in the core of cities, which affect urban livability and economic growth in the downtown area. These changes have contributed to demographic and economic disparities within the city’s boundaries, where high-income households are clustered in suburbs and low-income people in central locales. Hamilton like many other North American cities has experienced suburbanization (Behan et al. 2008) and its consequent impact on demographic disparities within the city.

Complete streets approach

In recent years, there has been an increasing interest in the principles of New Urbanism and the alternatives it offers to the sprawled development. The approach looks back to the traditional patterns of walkable, mixed use, and higher density neighborhoods with more interconnectivity of streets and better accommodation of pedestrians and bicyclists (Southworth & Ben-Joseph, 2003). The Complete Streets approach borrows certain ideas from new urbanism theory. In contrast to suburban-style streets, complete streets design calls for narrower streets, typically composed of two lanes, one for each direction and space for bicycle path and on-street parking. With such an approach, street quality is evaluated by level of safety, pedestrianization, social activity, and visual aesthetics rather than only measuring capacity to carry traffic.

Literature Review: Urban vitality by street design

Complete streets is an approach which is not just about the street design but rather about recognizing the potential needs of the community to address them in the planning process (Burden & Litman, 2011). Safety, accessibility and economic growth are among the most important factors that contribute to urban vitality.

The Complete Streets approach aims to make streets safer for residents and visitors. Some studies have attempted to examine the impact of traffic calming measures on street safety. For instance, Dumbaugh and Gattis (2005) hypothesized that livable streetscape treatments are safer than their more conventional counterparts. They did a crash performance study comparing a section of street equipped with all landscaping and streetscape amenities (called a “livable” section) with nearby comparison sections. The results showed that by any meaningful safety benchmark, the livable section was the safer roadway. In another study, Jacobson (2003) examined the relationship between the numbers of people walking or bicycling and the frequency of collisions between motorists and walkers/bicyclists. He examined the studies conducted in Californian cities, Danish towns, and European countries. In almost all cases, the result showed that pedestrians are safer in areas with greater walking and bicycle facilities. Indeed, the complete streets approach has been shown to reduce accidents by slowing traffic and/ or increasing driver caution (Ewing, 1999).

In contrast to safety, Complete Streets impacts on accessibility and economic growth cannot be quantified easily. Accessibility is defined as the ease of travel between common destinations, particularly for non-drivers and disadvantaged groups, including elderly and people with disabilities or low income (Litman, 2011). The Complete Streets approach is intended to improve accessibility by creating pedestrian-oriented environment and by developing more diverse transportation options. Regarding economic growth, however, there is ambiguity as

to whether complete streets increase business activity, retail sales, property values and tax revenues of a region. Indeed, there is no reliable evidence measuring the direct impact of complete street on economic activity. Some pilot studies, however, have shown that if operations of all active modes (walk, bike and bus) and also all measures of safety are improved, there would be increases in retail sales in the project areas (NYC DOT, 2013).

Case studies

There are an increasing number of street design/redesign examples that have been implemented in North America particularly in the United States. Most studies, however, have been carried out in specific contexts and their implications for other areas are not easily inferred.

The Blvd, City of Lancaster, CA: In 2010, the city adopted a plan with “complete streets” design features to encourage economic investments in the city’s downtown district along Lancaster Boulevard (rebranded as The BLVD). The new plan reduced the number of travel lanes from four to two, removed six traffic signals and created spaces for public events (McCann et al., 2012). The design features included on-street parking, raised medians, improved crosswalks, urban planting and lighting, and outdoor seating (Gordon-Koven, 2012). This investment (about \$10 million) has spurred \$125 million in private investment in the downtown area, with 50 new businesses opening and 800 new jobs. Sales tax revenue grew by 26 percent (McCann et al., 2012) and injury-related collisions reduced by 85 percent (Gordon-Koven, 2012).

9th Avenue, Manhattan, NY: 9th Avenue provides another example of a Complete Streets approach to street improvements. The corridor was primarily an unsafe four-lane road with a long crossing distance (about 21 meters) and no cycling space (NYC DOT, 2007). In 2007, the city created a protected bicycle lane along this corridor, followed

by other features of Complete Streets such as refuge islands, visible crosswalk markings and street planting. These changes resulted in a 58% decrease in injuries to all street users and up to a 49% increase in retail sales (Locally-based businesses on 9th Ave from 23rd to 31st Sts., compared to 3% borough-wide) (NYC DOT, 2012).

Overall, the case studies support the view that complete streets lead to more safety and better quality of life for residents. Although cases are powerful tools to observe the results of complete streets on the ground, they do not always provide a safe basis for decisions elsewhere. The reason is that neither the conditions of all streets nor the contexts of all neighborhoods are directly comparable. Indeed, the impacts of implementing Complete Streets depend on street type, land use patterns, socioeconomic environment and market orientation of an area. With limited literature, the case studies, however, provide us with some measured outcomes to assess the theory of complete streets in certain circumstances.

Thoughts about urban revitalization and Hamilton

We now conclude this brief paper with thoughts about urban revitalization and Complete Streets applicability in Hamilton:

- Many of the lower city streets in Hamilton have fairly low traffic volumes -- there is thus more flexibility to explore complete streets solutions. It is shown in the literature that arterials with less than 20,000 vehicles per day can be good candidates for a road diet (Burden & Lagerwey, 1999)
- People should not get overly optimistic about the potential of complete streets to spark revitalization on its own, as there are other critical elements involved to achieve vitality. For instance in a dense, mixed-use environment, vitality may develop anyway irrespective of Complete Streets measures taken.

- A large part of what makes complete streets work is the regulating and calming effect it has on traffic -- there are generally fewer lanes of traffic and it is slower moving. There is little doubt that this can play a role in making local areas seem more attractive for non-auto oriented activities and probably more livable.
- In Hamilton, complete streets can help the lower city play to its advantages. It is denser and more compact than the rest of Hamilton. This is consistent with how complete streets work best.
- There are challenges with the role of cycling in complete streets. North America has very low shares compared to Europe and weather conditions have an impact. In winter, for example, bike lanes may be the last to be cleared as they tend to be at road's edge. Parking for cyclists and large scale promotion of cycling are other important elements that complete streets on its own does not address.
- In the walking context, the literature shows clearly that density of destinations and having a lot of places to walk to is very important. Again, complete streets does not solve that on its own but may contribute to the creation of more destinations. However, there is not a great deal of evidence to support this possibility.
- According to the literature the majority of the benefits associated with complete streets are probably social in the form of improved safety for all users of the roads. There may be a better "feel" in the vicinity that contributes to better livability. These social components may generate the right pre-conditions to generate sustained economic improvements. In an environmental sense, complete streets will reduce the noise associated with traffic as it slows down a bit but it is not clear that there will be significant reductions in emissions unless fewer vehicles cross the area.

- There is clear evidence in the literature that busy urban and especially suburban arterials are some of the most dangerous in a metropolitan context. These are the roads where the mobility and access functions suffer from the greatest conflict and where there is the most potential for accidents. Behaviours such as cycling on sidewalks can occur in these contexts and this is quite unsafe. The potential for complete streets to make a difference in these concepts is possibly less and certainly more challenging.

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