City Centre Traffic-Calming
Two Examples

Traffic calming is designed to help reorient cities to people, rather than vehicles. Slowing and reducing vehicle traffic can help to improve the livability of communities and increase safety for pedestrians and bicyclists. Over the last century, roadways were designed to increase throughput and traffic flow even on local roads. This led to unsafe conditions for pedestrians, and increases in noise and air pollution that negatively impacted living conditions. It is now recognized that streets do not function only to move traffic, but can function as social and recreational spaces that can bring communities together.

The cities of Hasselt, Belgium and Houten, Netherlands are just two examples of cities that took these principles to heart, and transformed their cities in order to help build community, improve quality of life and make them attractive places to live.

The Transportation System of Hasselt, Belgium

Hasselt is a medium-sized city in Flemish Belgium with about 75,000 inhabitants, and many more that come into the city daily to work. It has a rather low population density compared to similar cities in Belgium and the Netherlands, with a population density of only 728 inhabitants per km².

In the early 1990s, the city made a decision that instead of building a third ring road, they would instead shift to thinking about smart mobility and turn their focus to walking, biking and public transport.

The city transformed the existing inner ring road into a green boulevard, focused on pedestrians and livability for the surrounding residential areas. It features low auto travel speeds, and plenty of space for cyclists and pedestrians. This process is indicative of the initiative that the city has taken to promote livability and focus on people, not vehicles.

There are several major initiatives that have been undertaken in Hasselt. The first was a car free pedestrian zone in the main shopping area that took effect in 1974. There was initially a lot of resistance, but eventually this was overcome as it became apparent that business would not decline, but rather increase with an influx of new pedestrians. Further measures were taken in 1990 to limit traffic in the center city to only necessary services (police, residents, emergency services) during the...
majority of the day, in order to further strengthen the pedestrian oriented zones.

Today there are about 2km of pedestrian zones in Hasselt, which are closed to cars (by means of electric barriers) between 11.00 and 17.30. There is also a closed alley network that provides pedestrian shortcuts within the center, and means that travel times for pedestrians are lower than those for automobiles.

Across the city, the number of parking spaces was decreased by 800 spaces, and the fee was changed to be 1€ for the first hour, and 10€ for a half day, with the revenues contributing to public transport. The city also implemented free guarded bike parking, and a free bike, tandem, scooter and wheelchair rental program in the main square.

Another innovation in Hasselt that helped reduce traffic was limiting freight and delivery traffic within the city center. Deliveries take place between 6.00 and 11.00, and 17.30 and 20.00. There are 5 delivery routes that serve the center and 50 drop off zones. Additionally the city developed a centralized freight center called CityDepot that is located outside of the city. Deliveries can be made to CityDepot between 7.00 and 19.00, and they are then delivered within the city center via freight bicycles.

A significant challenge that Hasselt faces are the high levels of automobile ownership and use. Automobile ownership is 1,14 vehicles/household, the highest rate in Flanders. Additionally, the journey to work mode share for automobiles is over 70%, compared to only 5% public transport, 11% bicycle and 3% walking. While the modal splits for home-school trips, and overall trips are more promising, switching journey to work trips from personal vehicles to more sustainable modes is a significant challenge. The 2013 modal split for home-work and home-school journeys is shown below:

<table>
<thead>
<tr>
<th>Mode</th>
<th>Home-work</th>
<th>Home-school</th>
<th>Overall Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>78.29%</td>
<td>35.36%</td>
<td>22.53%</td>
</tr>
<tr>
<td>Bicycle</td>
<td>11.21%</td>
<td>35.96%</td>
<td>9.89%</td>
</tr>
<tr>
<td>Collective</td>
<td>5.1%</td>
<td>18.99%</td>
<td>40.9%</td>
</tr>
<tr>
<td>Walking</td>
<td>3.1%</td>
<td>7.89%</td>
<td>26.35%</td>
</tr>
</tbody>
</table>

Table 1: 2013 Modal Split

In 1997, the city instituted a new transportation policy plan called "Working Together on a New Form of Mobility", or "Samen Anders Mobiel" in Flemish. This policy was broken into two levels: the Larger Transport Policy and the Smaller Transport Policy. These two parts have different foci, but are based on the concepts of urban traffic safety, livability and transport comfort. The campaign is focused on awareness and promoting travel by bike, bus and walking together with key stakeholders.

The Larger Transport Policy has a broader approach. It is focused on building policy frameworks for areas such as overall mobility, cycling, parking, and public transport, among others. The Smaller Transport Policy
focuses on quick solutions that have a big impact. These can include things such as “no parking” signs, speed bumps, raised crosswalks, street narrowings (corner and mid-block bulges), speed restrictions in residential areas, supervised cycle parking, 30 km/h zones and other interventions focused on traffic calming and overall safety and liveability.

Important stakeholders involved in and affected by traffic calming measures in Hasselt include:

- The city government
- Auditcommissie de Vlaamse Gemeenschap (Audit Committee of the Flemish Community)
- De Lijn (the public transport company)
- freight companies
- local businesses
- local residents

**Future Plans**

Hasselt released its new sustainable urban mobility plan in 2013 in conjunction with Genk, the neighboring town. The plan provides an overview of the vision for the cities until 2040, and continues to focus on prioritizing first pedestrians and cyclists, then public transport and finally private automobiles.

**Houten, Netherlands: Urban Design for Active Mobility**

The modern city of Houten was conceived and designed as a commuting town to meet the needs of the growing city of Utrecht, the Netherlands, located only 8km away and accessible by road, bike and rail. The idea to transform Houten was conceived in the late 1960s, and over the next four decades, the population grew from only a few thousand residents in the 1970s to 48,000 in 2014. The main priorities were to improve the quality of life for residents and maximize accessibility for all residents not only within Houten, but also to regional centers, by promoting non-motorized transport and connections with regional rail. Houten is a unique example of innovative and comprehensive urban design focused on prioritizing traffic safety for pedestrians and cyclists by using narrow streets, traffic calming measures, and avoiding conflicts between bicycles and cars through the use of separate bike paths, particularly at intersections.

Houten has two main train stations to ensure that no resident lives more than 2.5km from a station, and the city is bounded by two tangential ring roads. Houten was designed so that cyclists can move about faster and more easily than motorists. The 31 residential districts are only accessible from the ring roads by automobile, but are easily reached from anywhere in the city by bicycle or foot with over 130 km of bike paths. The historic city centre, located between the train stations, is accessible only by bike or by foot, with the exception for some commercial and maintenance vehicles. The city centre is attractive, with a man-made canal, and lined with shops and cafes, while major business areas are located along the ring road to provide accessibility both by motorized and non-motorized transport.

The experience in Houten shows that innovative design features can not only be applied to new urban districts, but also to entire cities. The majority of non-work or –
school trips in Houten are done by bicycle, including 53% of trips for grocery shopping, 70% for other shopping and 79% for visiting friends and family. According to a study performed for the Netherlands Environmental Assessment Agency, the high share of cycling and walking has contributed to the fact that residents in Houten are physically more active than people in the Netherlands as a whole; 80% of Houten residents are active for more than 2.5 hours per week, compared to 55% in the rest of the Netherlands. While the cycling mode share is comparable to surrounding towns, the walk mode share in Houten is significantly higher (Table 1). While there are high levels of car ownership in Houten, and few restrictions on personal vehicle parking, it is clear that the deliberate urban design has helped contribute to the success of non-motorized transport in the city and limited daily personal vehicle use.

Five main objectives helped Houten’s developers achieve their goal of creating a safe, liveable and tightly knit suburb, while maximizing accessibility for all residents:
- Allow no through traffic for motorized vehicles within the town
- Allow no fast traffic within the town
- Maximize the attractiveness of train journeys
- Create attractive town centres
- Maximize the attractiveness of the bike for internal trips, particularly for trips to main internal destinations, such as shopping and schools

Care was taken to ensure that schools and important buildings are located along bicycle thoroughfares running through the city centre, and no child had to travel more than 400 meters to school. Deliberate street and urban design methods were employed to ensure the prioritization of non-motorized modes. The transition from ring road to residential roads are marked with deliberate urban design features including brick pavement, traffic islands, and deliberate curvature to maintain safe speeds and heighten driver awareness. Additionally, homes were built to face onto cycling routes, and care was taken to build multi-level crossings so that there is no conflict between cycle routes and motorised traffic. Although motorized scooters are legally allowed on bike paths in the Netherlands, speed bumps and other means were employed to ensure that they travel at

Table 2: Houten compared to similar towns

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safe speeds.

In the end, it has become clear that easy, safe and convenient cycling results in higher rates of cycling, even among non-predisposed residents. Because Houten is a relatively new suburb and draws people from across the country, cycling also helps to break down social barriers and allows people, both adults and children, to interact freely and safely.

**Other Innovations**

By prioritizing non-motorized transport, Houten has led the way in cycling infrastructure innovations. The roundabout and bike parking facility are just two of the ways that Houten has shown its commitment to cycling.

**Roundabout**—A bicycle roundabout was built below a vehicle roundabout in order to ensure no conflicts between the modes. The roundabout was built to link the old north side of town with the new south side of town because there was heavy bicycle traffic coming from all directions. It provides phenomenal connectivity for the bike network and helps mitigate the divisive effects of a major vehicular route cutting through the centre of a city.

**Transfer bicycle parking station**—This bike parking facility is located directly below the railway tracks and platforms in order to facilitate the ease of transfers between modes. It is an important and fully integrated part of the railway station design, with space for over 3,000 bicycles. Parking is guarded and free of charge, and there are additional services like maintenance, repair and rental bikes, and even lockers, toilets and a Tourist Office. It is open before the first train arrives in the morning and until after the last train at night. These types of facilities have helped make Houten a leader in cycling mode share, with over 60% of train passengers arriving by bicycle, compared to only 40% nationwide.

**Future Plans**

Houten initiated a project called "Houten 2025", a comprehensive plan for the future that was developed in collaboration with residents, young people, entrepreneurs, regional partners, community groups and technical experts. The goal of developing the plan was to ensure that the quality of life currently seen in Houten continues as the population ages, and young people are inclined to move towards larger cities. By focusing on issues of employment, housing and recreation, the goal was to continue to attract new residents and innovative businesses.
Conclusions

Houten and Hasselt have taken different paths towards building sustainable and welcoming communities, but both have found that focusing on the movement of people, rather than vehicles, can help improve the quality of life and sense of community in their cities. Other cities around the world may learn from these experiences that can help attract residents and business growth. But change is only possible through the involvement and buy-in of a wide variety of stakeholders, including the city government, local businesses and residents.

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Further Information

Hasselt

Presentation on mobility in Hasselt: http://www.tallinn.ee/eng/g10210s64057

Information about other complementary campaigns (freight, parking): http://freepublictransports.com/2013/09/02/a-visit-to-summer-school-the-capital-of-free-public-transport-in-tallinn/

Good explanation of system’s development: http://thetyee.ca/Views/2007/07/09/NoFares3/


Mobility vision of Flanders: http://www.delijn.be/mobilitetvisie2020/homepage.htm


Houten

“Sustainable Transportation in Houten”, a project from Northeastern University, Boston, MA, USA: http://wiki.coe.neu.edu/groups/ml2011transpo/wiki/074aa/11_Houtens_Bicycling_Network.html

ELTS Case Study on Houten: http://www.eltis.org/index.php?id=13&study_id=4039


“Houten, a cyclists town”. Houten City Government: https://www.houten.nl/burgers/verkeer-en-vervoer/fietsen1/cycling1/
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