Cycling in the Netherlands

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The Dutch emphasize a layered approach to planning – moving from surface to networks to occupation. A high degree of importance is granted to infrastructure improvements, both visible and invisible, including the vast multi-modal network of transit-ways that blanket the country. A diverse transit infrastructure has been essential for the success of Dutch urban cities. A key component of this impressive system is a strong allegiance to the bicycle. Bicycles have played a large role in shaping the urban fabric of the Netherlands since the late 19th century. After suffering a decline due to post-World War II automobile innovation, they are once more emerging as a practical mode of modern transportation. Bicycle use did not happen accidentally, or swiftly. Its current popularity is due to stringent planning and policy measures diligently enforced throughout the last three decades. By first understanding the existing transportation infrastructure of the country as a whole, and then focusing on the bicycle as a distinct yet interdependent element within that system, one can understand why cycling has and will continue to be an essential part of Dutch transit.

Historically, as well as today, water constricted the quantity of available land. Towns and cities developed compactly and cooperatively, using the extensive canal system to trade goods throughout the country. As transportation technologies improved, with the addition first of the train and then an extensive road system, the tradition of concentrated centers remained. Throughout the twentieth century, taking heavy influence from Ebenezer Howard’s Garden City concept and the functionalist approach of Von
Eesteren and Von Lohuizer⁷, as well as a strict adherence to multi-modal transportation, the Dutch government expanded urban areas through nodal development. Prior to 1950, the train and the bicycle were used to determine adequate spacing between developments. For example, Noord-Holland, a primarily rural area, saw new towns formed at 15 to 20km apart – the distance one can cycle comfortably⁸. Rail was a more prominent figure through the mid-western portion of the country, connecting cities of the Randstad to encourage domestic and international economic activity.

Nodal development spurred by railroad expansion has provided the backbone for regional and municipality development in the Netherlands. Through strict adherence to rail travel, municipalities developed poly-nucleic, satellite cities. The Dutch government identifies six separate regions, defined as entities of “larger and smaller cities, including the open spaces in between. The cities and centres that comprise these networks

▲ Satellite development via rail stations around Utrecht
complement and reinforce each others’ strengths, so that they have more to offer together than they do as individual citiesiii. In this model, the central city, such as Utrecht or Amsterdam, is the primary economic force of the municipality, while surrounding cities and towns supply a labor base and supplementary business. With 45% of the Dutch population living less than 3 km from a rail station trains are imperative to fluid mobility within municipalitiesiv.

The purpose of the National government is to set policies and guidelines for development of regions, however the municipalities themselves must bring individual plans to fruition. In this sense, the municipality has the greatest impact on the spatial arrangement of the country, particularly because of their ability to shape infrastructure within their boundaries. Dutch planning policy emphasizes the necessity of a coordinated, multi-faceted approach within municipalities to manage all transit modes concurrently. The compact size of Dutch municipalities has been of great benefit for encouraging bicycle infrastructure. Nearly half of all trips made in the Netherlands are of 2.5km or less, with 37% of these trips made by bicyclev. Unlike the US, where more than three-quarters of all cycling is undertaken for sport, bicycling in the Netherlands is utilitarian by nature, and is used by all ages and social classes. The country on a whole cycles for 27% of all trips, with the most bike-friendly cities reaching 35-40% and the least still maintaining at minimum 15% ridershipvi. In general, the US cycles for less than 1% of all trips. Minneapolis, at 3% of trips, ranks as the second highest city in the US for cycling levelsvii.

Statistic for utilitarian cycling in the States are problematic. Americans reporting bicycle use are likely estimating higher than normal use compared to typical behavior.
For example, a purely recreational journey, such as taking a family to the park or on an evening ride without a particular destination, probably defines a “trip” for most Americans. The Dutch statistics reflect truly utilitarian rides with specific destinations, commonly to the grocery store, the post office, or work. The chart below displays the chosen transit mode for particular destinations of 7.5 km of travel or less. Most interesting here is the near equality between automobile and bicycle choice over short distances. These statistics represent policies that, since the 1970s, promoted cycling throughout the Netherlands as an efficient, equitable, and economic choice for all residents. Six main objectives of Dutch Bicycle Policy, as identified by the Netherlands Ministry of Transport include increasing accessibility of companies and facilities; improving the quality of the living and built environment; increasing social welfare and traffic safety; improving public health;

<table>
<thead>
<tr>
<th>Travel Reason</th>
<th>Never Car</th>
<th>Car or Bicycle</th>
<th>Never Bicycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopping</td>
<td>12%</td>
<td>59%</td>
<td>30%</td>
</tr>
<tr>
<td>Transporting Children</td>
<td>6%</td>
<td>70%</td>
<td>24%</td>
</tr>
<tr>
<td>Sports and Recreation</td>
<td>28%</td>
<td>41%</td>
<td>30%</td>
</tr>
<tr>
<td>Going Out</td>
<td>12%</td>
<td>48%</td>
<td>39%</td>
</tr>
<tr>
<td>Commuter Travel</td>
<td>29%</td>
<td>40%</td>
<td>31%</td>
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(Source: Study on Short Trip Relocation Repertoire, citizens with a car)
increasing development opportunities and reducing theft. This has led to a country of 15 million residents, with only 6 million cars but nearly 20 million bikes.

The strength of the Dutch cycling is its coordination with the greater transit system. Dutch philosophy insists that the cyclist network cannot be considered in isolation from the vehicle or rail networks. In order to increase connectivity and ease travel, all roads with speed greater than 50 km/h are required to have adjacent cycle lanes. This has decreased accidents caused by shared lanes, and allows for cycle paths to run directly between cities. Overall, there are over 7,000 km of separated paths in the Netherlands¹. Almere offers one example of a new city’s coordinated, multi-faceted approach to transportation. Autos, buses, and bicycles follow separate but parallel lanes for travel through the city. Each lane is scaled appropriately to the type of transit.

Since they run the same course they offer each mode a direct route to specific destinations. This separation also enables each transit type to travel at its appropriate speed without impeding another.
Street scale in the Netherlands has been important for allowing bicycles to proliferate throughout the country. Unlike the US, preferential treatment for vehicles is not automatic. Space is given to whichever mode of transit is most functional for that specific road. For example, many streets within the center of Utrecht are narrow and winding, a remainder from medieval times. These are problematic for vehicles, but create pleasant passages for pedestrian and bicycles. Instead of forcing automobiles where they do not fit, this area of the city is restricted entirely. Where travel through the city by car is necessary traffic is reduced to single lanes in either direction and flanked by specific bike lanes and generous sidewalks. Proportionally there is equal or more space dedicated to non-motorized transit than to vehicular transit on the majority of city streets.

Attention has also been paid to cycling right-of-way as a means to heighten automobile awareness and increase safety. In larger cities like Utrecht bikes are given separate signal lights. On top of that, bicycle lights are also given priority to auto signals. Differentiation between lanes is artfully crafted within Dutch cities. Bricks are commonly used throughout city centers, and are laid in intricate patterns to distinguish between auto, cycle, and pedestrian use. The aesthetic differences of the brick are also matched in scale changes, with the largest tiles being laid under car traffic, and smaller bricks for bikes.
and sidewalks. Outside the central city bikeways are diligently cared for, creating smooth, comfortable surfaces in response to lengthier rides. Benefits of the bicycle are difficult to ignore. It creates no noise or air pollution. It requires no non-renewable resources for operation. The energy burned through use provides valuable cardiovascular exercise. Space and costs for infrastructure are a fraction of the cost for vehicular travel, making biking the most affordable and equitable of all transit choices. The US, where consequential damage from the automobile is only beginning to be felt, would reap enormous benefit from implementing bicycle-oriented transit strategies.

The challenges facing cycling in the US has wide reaching physical and social roots. Distance has been the enabling force for automobile proliferation in the last half century. US planning policy encouraged dispersed, low-density communities to expand without pre-existing infrastructure. Within these suburbs, exclusionary zoning separates compatible land uses, isolating neighborhoods from commercial centers and local businesses. These policies create unnecessary distance between destinations, making cycling a less attractive mobility option. Because fewer people choose to cycle for these lengthy trips, developers and local governments take this as an indication that residents prefer their car. Thus, roadways and cities are designed to accommodate vehicle travel.
above all other methods. This becomes a vicious cycle where the bicycle can never practically compete with the car.

This pattern will continue creating unfriendly streets until there is an adjustment in American values. Society sees the bicycle as a recreational toy, meant specifically for children and gear-heads, and not as an equitable utilitarian vehicle. American auto obsession begins at an early age, and is continually reinforced through media and pop culture. Cars provide the ultimate pathway to freedom. Life in the US is divided in the years before one could drive and after. Look at the importance placed on a teenager’s sixteenth birthday to understand how deeply this addiction permeates.

Local governments must actively discourage automobile use if the current cycle is to change. Driving is artificially inexpensive and unnaturally comfortable for US residents, therefore individuals will hand over the keys only when vehicle travel becomes uneconomical and inefficient when compared to alternative methods. A dual approach of improving bicycle infrastructure coupled with imposing automobile restrictions will be necessary for the US if they are truly committed to increasing utilitarian cycling. If a little hike in gas prices can make people cautious about using their automobile use, think of the effects lifting subsidies would have for teaching car owners the true economic costs of operating a vehicle.

Minneapolis and St. Paul currently have excellent bicycle infrastructure, in US standards. Numerous bicycle shops, such as Erik’s or The Hub, service the downtown areas. Where Minnesota fails at attracting utility cyclists is in its suburbs. Intense remediation must occur in the greater metro region for the level of ridership to increase statewide. Throughout the sprawling suburbs paths are scarce, so riders are forced to
negotiate with cars even on higher speed roads. Safe routes often divert riders far out of their way in order to reach destinations. Stronger planning and development policies, stemming from city governments, are needed to encourage pedestrian scaled suburbs, where biking and walking can become viable transportation options.

Even with all the impending roadblocks slowing the movement push towards a society of cyclists, there is still a strong base of supporters throughout the Twin Cities region. Infrastructure improvements and suburban expansion are changes that could enable thousands to opt for pedal power. Residents of our state are poised and ready to dust off the old 10-speed and hit the pavement. The foundation is ready; it is now the government’s turn to stamp their seal of disapproval on excessive automobile use and set an example for the rest of society to follow.

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i Douvendans, Kees. Lecture in Utrecht, 26 May 2008
ii Van Dyke, Ria. Lecture in Almere, 11 June 2008
iii *Nationals Spatial Strategy Summary*. The Hague