

# Increasing Bike Ridership: The untapped potential of children

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## Introduction

Seattle has made strides to become a sustainable city on an array of fronts, but the campaign to increase bicycle ridership has struggled to gain momentum. As three North Seattle children, we witnessed this slow growth centered around being green and demonstrated by cyclists decked out in shiny uniforms, accessorised bikes, and an unhealthy amount of stickers on their water bottles. In this project, our group focused on cycling as a mode of transportation we wanted to see increase, but not necessarily in its current form. Keeping the Seattle context in mind, we looked for features that contributed to high bicycle ridership in the Netherlands and Denmark. After our preliminary research we compared our findings to what already exists in Seattle's Bicycle Master Plan, and found that Seattle is already planning to implement many of the programs we had discovered while abroad. Despite this, we think many of these programs can still be improved upon by looking to case studies beyond that of Portland. More importantly, our research has indicated that the best way to increase ridership, and gain public support for new infrastructure projects, is through educating and providing habit forming programs for children. Through this paper we will explain why it is important for Seattle to refocus on children in order to foster a sustainable increase in cycling ridership.



[http://d.fastcompany.net/multisite\\_files/fastcompany/imagecache/inline-large/inline/2016/03/3057379-inline-s-5-in-this-danish-city-5-year-olds-bike-to.jpg](http://d.fastcompany.net/multisite_files/fastcompany/imagecache/inline-large/inline/2016/03/3057379-inline-s-5-in-this-danish-city-5-year-olds-bike-to.jpg)

Child-oriented cycling initiatives have been an integral part of the development of a cycling culture in Odense, Denmark. Today, 81%<sup>1</sup> of children ride to school and 31%<sup>2</sup> of all people visiting the city center arrive by bicycle. "By integrating the bike as a natural element in all aspects of the school's daily routines, you create a bicycle culture where the bike is 'just' a means of achieving other goals. The bike thus creates the basis for going on interesting outings, excursions, physical activities, and fun and better learning."<sup>3</sup>

While Portland appears to be used as a model example throughout Seattle's Master Bike Plan, if Seattle hopes to be recognized on an international level, it may be beneficial to look to examples in countries that have created and maintained high levels of cycling. Of these, include the Netherlands and Denmark, two European countries that are now renowned for their bicycling culture and infrastructure. Both these countries, and the US, were automobile dominated after the rapid growth of the car throughout the 1960s. However, unlike the US, these countries were able to make a significant modal shift from car to bike within just a few decades. The shift is widely contributed to the oil embargo in 1973<sup>4</sup>, which vastly increased the cost of driving. While the U.S. was also affected by this same event, such trends did not take root. It is our view that the successful shift in modes was accentuated by the considerations made for the mobility of children.

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1 Walker, Peter. "Europe's Most Liveable City."  
2 "Facts about Cycling in Denmark - Cycling Embassy of Denmark."  
3 Clausen, Connie Juel. "Municipality of Odense - Cycling Embassy of Denmark,"  
4 Mozer, David. "Bicycle History (& Human Powered Vehicle History)."

## Why are children an important user?

Jan Gehl, a world-renowned architect and design consultant who spent 50 years of his life designing cities for people instead of vehicles, told us, “the kids make very nice cities.”<sup>5</sup> By this he meant that if you planned a city around the children you would inevitably make a nice city to live in. Similarly, we believe that planning biking around children will create a more sustainable biking population.

One of the biggest barriers to starting the movement around child-oriented cycling, is the concern with the safety. As David Hembrow, a leading cycling advocate from the UK, puts it, “When people make the decision about whether it is ‘safe to cycle’, they generally mean [subjective safety and social safety, not actual safety.] No-one will do anything that feels too dangerous to them.”<sup>6</sup> What Hembrow conveys is that the actual safety of a street is less important to ridership than the subjective perception of risk, “Safety is a problem of danger while subjective safety is a problem of fear.”<sup>7</sup>

When planning for children, safety is nonnegotiable--there are no shortcuts to providing seamless infrastructure because without parental consent, this user group is barred from the roads. Hembrow claims that “Sub-standard facilities are of no use to anyone. Not only are they no good for confident adults to cycle on, but they will also never provide the level of subjective safety required for British parents to think their children are safe on a bike.”<sup>8</sup> Hembrow’s cry for high quality infrastructure is an ideal solution, but extremely problematic as it requires an enormous amount of public demand and requires large investments. Thankfully, providing educational and habit forming programs to children is an effective way to both foster new users and increase awareness amongst parents. Through these non-infrastructure based interventions, children are able to reclaim the streets, increasing ridership and providing a pathway to higher levels of public support for eventual infrastructure changes.

## Examples from the Netherlands and Denmark

### “Find your Safest Route to School”

Schools in Denmark have addressed safety through their safe routes to school initiatives that prepare and equip young riders with the skills they need to cycle to school safely. A commute to school is a great opportunity to instill the concept of the bicycle as a casual means of transport while helping children develop the habit and desire to cycle. The Find Den Sikreste Skolevej (Find Your Safest Way to School) strategy is used at a number of Danish schools and aims to not only guide students through their neighborhood streets, but also to help them develop safe cycling behavior.<sup>9</sup> The program uses neighborhood maps to identify intersections and streets around the school that are commonly traversed by students on their daily commute. These locations are specifically addressed in the classroom and teachers facilitate active conversations with the students about how to safely navigate them.<sup>10</sup> The program also encourages teachers to allow students to map their own routes to school with paper maps to identify spots that they find challenging to cycle. By actively engaging students in discussion over how to get to school and ride through certain streets, cycling skills are used as a means of increasing safety. Helping students become smarter cyclists helps improve safety around schools which can later be supplemented by improvements in infrastructure.

This safe routes to school method differs from those in Seattle because rather than identifying all the safe streets around a school and guiding students on a detour to arrive at their destination, Find Your Safest Route to School aims to help students become aware of their skills and limitations as a cyclist on existing infrastructure, which prepares them to practice safe cycling behavior in the context of their city.<sup>11</sup>

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5 Gehl, Jan. “Liveable Cities.”

6 Hembrow, David. “Three Types of Safety.”

7 “Barriers to Cycling.” Cycling Embassy of Great Britain

8 Hembrow, David. “Stop the Child Murder.”

9 Jørgensen, A., Boiling-Ladegaard, E. “Skole Cyklings Håndbogen.” Cyklistforbundet. p.24,25, n.d. Web.

10 Jørgensen, A., Boiling-Ladegaard, E. “Skole Cyklings Håndbogen.” Cyklistforbundet. p.53,59, n.d. Web.

11 “Safe Streets, Healthy Schools and Communities.” Seattle Department of Transportation. p 14, 2015. 19 Aug. 2016



This map identifies intersections based on level of difficulty to navigate by bike. 8-10 year olds are recommend to stick to green-dot intersections, 10-11 year olds to nothing higher than a blue-dot intersection, 10-12 year olds to orange dot intersections, and 11-12 year olds to red dot intersections. Parents assess their child’s maturity and road safety. The municipality or the school can even make maps in paper versions using Google Maps.<sup>12</sup>

### Traffic Exam

Schools in The Netherlands use comprehensive cycling education and traffic exams to help students adopt safe cycling habits and create excitement around riding a bicycle. Cycling education curriculums, taught through primary school, encompass traffic safety and appropriate cycling behavior to prepare for

a nationwide (optional) cycling exam. The exam takes place over a sequence of streets lined by volunteers and teachers who facilitate the event. Students cycle their way through the route and are tested on their proficiency of traffic behavior. After passing the physical cycling test and a written exam, students receive their traffic diploma.<sup>13</sup> Having consistent cycling education and a cycling exam to work towards, students can gain a sense of pride when earning their diploma and achieving the status of a proficient cyclist. Students in the Netherlands are raised around a culture of safe cycling practices and grow up into mobilists who are thoroughly aware of cyclists, even if they end up as motorists.



<http://www.obs-deklinker.nl/upload/image20160606.jpg>



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### Outdoor Experience Activities

A culture of cycling amongst children does not start and end with in-class education. It is important to gain knowledge about safe routes to school and traffic behavior, but an adoption of cycling into one’s natural habit is also rooted in a more experience-based practice. To become a competent cyclist, a child must develop their proprioceptive sense by learning how to brake, turn, and react on their own. Integrating cycling with play is an effective way to help children become one with their bike. In addition, having children learn how to concentrate on something beyond cycling while cycling, such as play, is a skill needed to be a safe bicyclist on the road.<sup>14</sup>

12 Jørgensen, A., Boiling-Ladegaard, E. “Skole Cyklings Håndbogen.” Cyklistforbundet. p.24, n.d. Web.

13 “VVN Practical Traffic Exam.” Veiligverkeer. N.p. 2016. Web 19 Aug. 2016.

14 Skou Hauschildt, Lasse. “It Begins With the Children - Danish Cyclists’ Federation Speaking at Estonian Traffic Conference” Cycling Embassy of Denmark. N.p., 30 Oct. 2014. Web. 19 Aug. 2016.

“Of course, traffic regulations are very important, but a child who does not master its bicycle properly will never become a competent cyclist. And if cycle training becomes an irksome duty, there is a risk that the child will not want to cycle at all. Conversely, a child who loves to cycle will be highly motivated to learn the traffic regulations.”<sup>15</sup>

There have been numerous campaigns throughout Denmark and the Netherlands that promote bicycle usership by children, some of which are quite creative. Some activities that socialize children to bicycling include bicycle playgrounds, traffic gardens and bicycling games that can be incorporated into school and outside-school settings.

In 2011, the Cycling Federation of Denmark, with the help of other organizations, developed a mobile bicycle playground for children.<sup>16</sup> Last year, they were granted funds to construct 10 permanent versions of such playgrounds. However, their efforts to engage children through playing started years earlier. In 2008, they published “Cykelleg” or “Bicycle Play,” a guide for parents and daycare staff to engage children on bikes through games.<sup>17</sup> These games are used by schools and are available to the public.<sup>18</sup> One such game, for example, entails an adult blowing bubbles and children catching as many as they can with their hands, helmet and bikes. Utrecht, Netherlands has had a “traffic garden” since the 1950s, where children can learn about traffic in an interactive but safe manner.<sup>19</sup>



[http://www.cycling-embassy.dk/wp-content/uploads/2015/01/MG\\_4930.jpg](http://www.cycling-embassy.dk/wp-content/uploads/2015/01/MG_4930.jpg)



<http://www.treehugger.com/bikes/dutch-traffic-garden-teaches-children-about-road-safety.html>

## The Youth: A User Group Like No Other

These educational and habit forming interventions for children are much more efficient than targeting older users who habitually drive and require infrastructure change for new ridership, “If we don’t ‘get them when they’re young’, i.e. at the age when the affordability and freedom offer a unique combination then we must instead try to convince older people to take up cycling when they’ve already formed a habit of travelling by other means and when they can more easily afford other means.”<sup>20</sup> Planning for these older users often results in uphill battles where plans for necessary large scale infrastructure projects quickly dissolve into fragmented improvements. This is because the relatively low public demand for cycling infrastructure is outweighed by car dependant users facing delays from construction and lane/parking restrictions. Because they require high levels of convenience, they are much harder to accommodate. Focusing on growing a new generation of bicycle advocates is much easier than making a resistant user group conform to a new culture.

Everyone can benefit from the obesity minimizing, zero emission results of cycling, but children stand the best chance to develop this healthy habit, “From a behavioural perspective, there is an assumption that lifelong patterns of physical activity are established in childhood.”<sup>21</sup> Cycling promotes a sustainable, healthy lifestyle in children but, “Kids don’t bike

15 “Making Cycle Training Fun.” Cycling Embassy of Denmark. N.p., 13 Dec. 2010. Web. 19 Aug. 2016.

16 “Bicycling Playground in Action” Cycling Embassy of Denmark. N.p., 14 Feb. 2012. Web. 19 Aug. 2016

17 Ruby, Lotte. “Cycling to Kindergarten” The Official Website of Denmark. N.p, n.d. Web. 19 Aug. 2016

18 “6 Cycling Games - Fun Cycle Training for All Children” Cycling Embassy of Denmark and Danish Embassy in London. N.p., n.d. Web. 19 Aug. 2016

19 Graham Richard, Michael. “Clever Dutch ‘Traffic Garden’ From 1950s Teaches Children About Road Safety.” Treehugger. 7 Nov. 2011. Web. 19 Aug. 2016.

20 Hembrow, David. “The Campaign for Childhood Freedom,”

21 Tudor-Locke, C., Ainsworth, B.F. & Popkin, B.M. Sports Med (2001), 311

for health or because it's good for the environment. They bike to be self-propelled, to have self-control and to use the body and sense -- this gives the child a unique experience of him/herself and his/her surroundings."<sup>22</sup> In addition to the healthy habits, the independence that cycling allocates younger users is both extremely positive for their mental growth and creates more democratic societies,

Acceptance of this perspective leads to the recognition that children have their own experiences and unique view of the world, and that communities become healthier when children's rights to participation are protected and encouraged. This attitude also implies attention to what children can do at different maturational states, rather than on what they cannot do (either because of biological immaturity or socially-constructed restrictions). In this sense, truly democratic and representative societies would be those where citizenship is defined by the connection and interdependencies among all members, even the youngest ones, each making their own contributions to healthier and more sustainable communities.<sup>23</sup>

This attribute of cycling not only benefits children, but their parents and overarching community as well. Through this independence, children become able to transport themselves, minimizing the need for parents to taxi their children, and reducing the, "20 to 30 percent of local morning traffic [resulting from parents driving their children to school] during the school year."<sup>24</sup>

## Conclusion

Children play a crucial role in increasing ridership in Seattle. Through programs like, find your safest route to school, traffic education, and outdoor experience activities, the city can foster a future generation of cycling advocates, while simultaneously growing demand for new bicycle infrastructure. These programs are effective because they mitigate the fear of safety through education, help to nurture healthy habits that can carry into adulthood, and cater to a receptive demographic of users that find cycling not only the most convenient but the most empowering. If Seattle wants to become the next biking capital of the world, they need to set their sights beyond America, and pair good practice from countries like the Netherlands and Denmark, with an aggressive campaign that looks not at the typical user, but the most vulnerable and adaptable.



[http://farm8.staticflickr.com/7163/6498681951\\_2b1b19bca8.jpg](http://farm8.staticflickr.com/7163/6498681951_2b1b19bca8.jpg)

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22 Kristensen, Mai-Britt. "How We Get Children to Bike."  
23 Silvia Blitzer Golombek PhD (2006) Children as Citizens, 28.  
24 Stewart, Orion. "Findings from Research," 127-150.

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