

Moving Beyond the Car

Families and transportation in Vancouver, BC

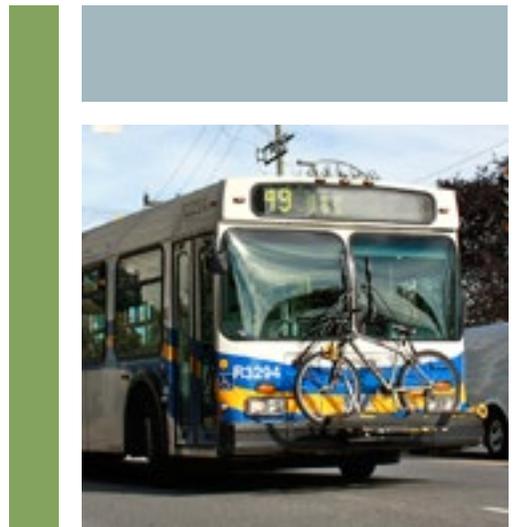
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by Arlene Tigar McLaren

APRIL 2015



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Moving beyond the car

Families and transportation in Vancouver, BC

THE METRO VANCOUVER TRANSPORTATION and transit plebiscite has brought transportation to the forefront of public conversation. This study provides some insight into how parents of young children travel within Vancouver—and how they would like to see their experience improve.

Parents with young children have many reasons to prefer cars to other forms of transportation. Tired, impatient children; strollers, diaper bags or sports equipment; and concerns about safety or weather can make it challenging to walk, cycle or take public transit. In spite of this, many of the parents we interviewed were trying to reduce their car use. Others did not have access to a car at all. Most parents wanted more and better options for other modes of transportation.

Many of the parents we interviewed were trying to reduce their car use.

We interviewed 52 parents of young children in four main areas of Vancouver—Downtown, Grandview-Woodland, Dunbar-Southlands and Sunset—and gathered these key findings:

Parents were trying to reduce their car use, in spite of the challenge this poses with young children

- Most of the parents we interviewed were multi-modal—that is, they used their car as one option among many, often walking, cycling or taking public transit with their children.
- Parents were generally well aware that over-reliance on cars contributes to problems like traffic congestion and climate change, and that their children’s health would benefit from choosing cycling or walking instead.

Many parents did not own a car

- A few parents had chosen to live without a car and preferred other ways of getting around.
- Many parents could not afford to own a car at all.

Parents' options vary depending on where they live and how much money they have

- Parents living in the low-density communities were more car-dependent than those living in the high-density and mixed-use communities.
- Those with high incomes were more car-dependent than those with low incomes.
- Parents who were car-dependent were often frustrated by their lack of options and wanted better access to other forms of transportation.
- Lower-income parents lived in areas with more dangerous traffic for walking and cycling with children. These areas generally had greater public transit availability, but the service was often not adequate, child-friendly or affordable.
- Higher-income parents lived in areas with traffic that was less dangerous but had less available transit. They often found that it was just as affordable to drive as to pay for transit tickets.

RECOMMENDATIONS

Parents who were car-dependent were often frustrated by their lack of options and wanted better access to other forms of transportation.

Develop complete communities

- Gradually increase density across the city and create more “complete communities” — that is, communities with commercial, school, employment and transit services in close proximity to residential areas.
- Extend Vancouver’s Social Development Plan (SDP) to include consideration of inequality and social justice issues in transportation policies.

Reduce car use and encourage other modes of transportation

- Designate a City staff member for developing consultations with parents and children on appropriate transportation and land use strategies.
- Monitor the effects of car dependency on parents and children (e.g. health, safety, social relationships) and develop plans to reduce negative impacts.
- Instead of focusing transportation planning on car use, develop multi-modal transport planning, which prioritizes various modes of travel and their connections.
- Expand the availability of car-sharing programs to provide more flexibility and choice for parents’ mobility options.
- Minimize children’s exposure to traffic (e.g. separated sidewalks and bicycle paths, traffic calming, car-free zones).
- Create child-friendly transportation options throughout the city, prioritizing cycling and walking.

Improve public transit

- Address key problems like unreliable services, crowded buses, poorly designed routes that require changing buses, limited routes or scheduling that do not correspond to

most people's daily or nightly routines, and inadequate accommodation of items like strollers, walkers and large shopping bags.

- Increase general tax revenue funding for public transit and decrease it for cars to help make transit better and more affordable relative to car use.
- Introduce more affordable ways for families to use public transit (e.g. subsidized transit passes, free transit).

Given parents' interest in finding alternatives to driving, we believe that policy makers would be wise to capitalize on this interest and make strategic investments to improve options for public transit, cycling and walking. The City of Vancouver has laid the foundations of sustainability in its land use and transportation policies, and its promotion of sustainability. But the City, in conjunction with other levels of government, needs to do much more to accommodate families with children.

Given parents' interest in finding alternatives to driving, we believe that policy makers would be wise to capitalize on this interest and make strategic investments to improve options for public transit, cycling and walking.

Introduction

Most benefits of the automobile are felt only by the user and only in the short term whereas many of the costs are borne by society as a whole and over the longer term.

DURING THE 20TH CENTURY, the automobile represented social progress and personal freedom. In recent years, however, its costs to users and society as a whole have become more evident. Transportation systems oriented around the automobile have contributed to a host of problems (e.g. congestion, death and injury, air and noise pollution, health issues such as obesity, social exclusion, land fragmentation, dehumanization of public space, oil dependence and energy insecurity).¹ Auto-dominated transportation is also a major contributor to greenhouse gas emissions, which are associated with climate change and have become an increasingly urgent issue.²

Most benefits of the automobile are felt only by the user and only in the short term whereas many of the costs are borne by society as a whole and over the longer term. Public policies subsidize automobility, including “dedicated road funding, road designs that maximize traffic speeds, zoning laws that provide generous free parking, and underpriced vehicle use.”³ Such policies maintain automobile dependency; that is, high levels of automobile use, automobile-oriented land use and a lack of travel alternatives.⁴ Large segments of the population (e.g. due to age, ability, income) do not have access to cars, and others are forced to use the car because they lack travel alternatives. Consequently, government policies increasingly aim to develop an

1 See, for example, Jim Conley and Arlene Tigar McLaren (eds.), *Car Troubles: Critical Studies of Automobility and Auto-Mobility* (Farnham: Ashgate, 2009).

2 Patrick Condon, Eric Doherty, Kari Dow, Marc Lee and Gordon Price, *Transportation Transformation: Building Complete Communities and a Zero-Emission Transportation System in BC*. (Vancouver: Canadian Centre for Policy Alternatives—BC Office, 2011).

3 Todd Litman, *The Costs of Automobile Dependency and the Benefits of Balanced Transportation* (Victoria: Victoria Transport Policy Institute, 2002), p. 2.

4 Ibid.

alternative sustainable transportation system, which is accessible, safe, environmentally friendly and affordable.⁵

Because cars have become an integral part of daily routines, they are not easily given up. Yet certain cracks in the automobility system suggest the possibility of a tipping point and a global cultural shift toward more sustainable urban transportation.⁶ This paper discusses a vision of sustainable transportation, based primarily on a study of Vancouver families with young children, in its investigation of how parents actually move about “on the ground” and accomplish their daily routines. The study examines the extent to which parents rely on the car, what other forms of transportation they use, what kinds of experiences they have with different modes of travel, what types of barriers and obstacles they face, what concerns they have about different modes of transportation and what modes they prefer to use and would like to have available. These questions tap into discussions about not only how families are currently getting around in their daily lives but also how, if they had a choice, they would prefer to move around their urban environment.

By considering four distinct Vancouver communities—Downtown, Dunbar-Southlands, Sunset and Grandview-Woodland—the paper takes into account how urban design (such as density and road systems) and socio-economic characteristics (such as household incomes and family structure) make a difference in parents’ travel experiences with children. In contrast to research that emphasizes the high frequency of parents using cars to chauffeur their children to various activities and events,⁷ this study shows the wide variation in how parents with children get around the city. The study also considers the transportation challenges that parents with young children face depending on where they live, how much they earn and how concerned they are about the ill effects of auto dominance.

The study particularly highlights the experiences of groups that are struggling to make ends meet (e.g. single mothers, low-income households, Aboriginal mothers and immigrant families) and that are frequently left out of research on transportation and marginalized in urban policy and design,⁸ though they make up significant segments of Vancouver’s population and require equitable policies. The study puts a human face on the benefits and costs of transportation options. Importantly, it provides an understanding of existing family experiences with transportation that can contribute to more concrete, relevant and just policies in the future.

Many Vancouver and Metro Vancouver policies are already moving toward low-carbon, efficient transportation systems. However, challenges remain in broadening the framework and addressing the gaps between short-term and long-range plans as well as between rhetoric and reality.⁹ As the City of Vancouver seeks to expand public transit, it is especially timely to explore how parents with young children are responding to the dynamics of the city in which transportation and land-use policies are in flux.

Many Vancouver and Metro Vancouver policies are already moving toward low-carbon, efficient transportation systems. However, challenges remain in broadening the framework and addressing the gaps between short-term and long-range plans as well as between rhetoric and reality.

5 This definition of sustainable transport is taken from the European Conference of Ministers of Transport (ECMT 2004) cited in Todd Litman, “Sustainable Transportation and TDM,” *TDM Encyclopedia* (Victoria: Victoria Transport Policy Institute, 4 June 2014): <http://www.vtpi.org/tdm/tdm67.htm>. For another definition, see *TransLink Sustainability Policy: Creating a more sustainable future*: http://www.translink.ca/~media/documents/about_translink/corporate_overview/policies/sustainability_policy.ashx.

6 Frank W. Geels, René Kemp, Geoff Dudley and Glenn Lyons (eds.), *Automobility in Transition? A Socio-Technical Analysis of Sustainable Transport* (New York: Routledge, 2012).

7 Catherine O’Brien, Subha Ramanathan, Richard Gilbert and Arthur Orsini, *Youth and Sustainable Transportation: A Review of the Literature* (Winnipeg: The Centre for Sustainable Transportation, 2009).

8 Anne Power, “Social Inequality, Disadvantaged Neighbourhoods and Transport Deprivation: An Assessment of the Historical Influence of Housing Policies,” *Journal of Transport Geography*, vol. 21 (March 2012): 39–48.

9 Condon et al., *Transportation Transformation*.

A SUSTAINABLE FRAMEWORK FOR MOVING BEYOND THE CAR

Building upon the Canadian Centre for Policy Alternatives study *Transportation Transformation*,¹⁰ this paper argues that complete communities and socially just transportation are essential policies for developing sustainable transportation and that they must be complemented with a family-friendly approach.

(1) COMPLETE COMMUNITIES “exist where people do not have to travel far to meet their day-to-day needs, making it possible to walk, bike and use high-quality public transit.... These communities include a mix of housing types (including affordable housing options), decent jobs, public services, parks and other public spaces, and commercial districts with restaurants, offices and retail outlets.”¹¹ Complete communities have many advantages. They are a crucial means of reducing auto dependency and achieving a zero-emission transportation system.¹² They make possible the five-minute walk rule in which a grocery store and other amenities are close enough that walking is more attractive than using a car.¹³ Studies show that as more people walk, bicycle or take transit, the unit costs for infrastructure decline and justify greater government investments compared with current government expenditures that favour roads and traffic services over transit.¹⁴ For example, in 2008–09, BC expenditures on roads and bridges were over \$3 billion whereas spending on transit was \$881 million.¹⁵

Complete communities have many advantages. They are a crucial means of reducing auto dependency and achieving a zero-emission transportation system.

Complete communities also help to level the playing field by providing a greater benefit to low-income households relative to those who are well off, and to the many groups such as children and the elderly whose primary mode of getting around is walking.¹⁶

Survey research shows that over half of the residents in the City of Vancouver and over one-quarter in Metro Vancouver “strongly prefer a neighbourhood that supports walking and easy access to public transit, even if it means giving up desirable aspects of auto-oriented neighbourhoods.”¹⁷ Research has begun to suggest in detailed ways how Vancouver communities can incorporate greater population/building density in ways that make them more complete and convenient.¹⁸

(2) TRANSPORTATION AND SOCIAL JUSTICE are inherently linked. In an auto-dominated transportation system, large groups of people experience the negative effects (e.g. restricted access to services and activities, reduced health (including safety), increased financial hardship and decreased community social interaction).¹⁹ In contrast, active modes of travel such as biking and walking

10 Ibid.

11 Ibid., p. 5.

12 City of Vancouver, *Transportation 2040* (plan as adopted by Vancouver City Council on October 31, 2012).

13 Patrick M. Condon, “How to Get People Out of Their Cars,” *Tyee* (23 September 2010): <http://theyee.ca/News/2010/09/23/GetOutOfCars/>.

14 Litman, *The Costs of Automobile Dependency*.

15 Condon et al., *Transportation Transformation*.

16 Ibid.

17 Larry Frank, Suzanne Kershaw, Jim Chapman and Kim Perrotta, *Residential Preferences and Public Health in Metro Vancouver: Promoting Health and Well Being by Meeting the Demand for Walkable Urban Environments* (Vancouver: Health & Community Design Lab, 2014), p. 5. Emphasis in the original.

18 Patrick Condon and Scot Hein (eds.), *A Convenience Truth: A Sustainable Vancouver by 2050* (Vancouver: School of Architecture and Landscape Architecture & the School of Community and Regional Planning of the University of British Columbia, 2011): <http://www.urbanstudio.sala.ubc.ca/2010/book%20templates.html>.

19 Peter Jones and Karen Lucas, “The Social Consequences of Transport Decision-making: Clarifying Concepts, Synthesising Knowledge and Assessing Implications,” *Journal of Transport Geography*, vol. 21 (March 2012): 4–16. See also Todd Litman, *Evaluating Transportation Equity* (Victoria: Victoria Transport Policy Institute, 2014).

and reliable, affordable transit options have positive effects on disadvantaged groups.²⁰ Public transit is essential in urban environments to provide equitable transportation²¹ for everyone, and it needs to be affordable. This objective can be made possible for low-income households by providing poverty-alleviation programs (e.g. broad income transfers) or transportation-related policies (e.g. free public transit, subsidized transit passes).²² Putting a transit pass (free or subsidized) in people's hands is an effective incentive to switch from cars to transit.²³ It is also an effective way to ensure that all residents — whatever their social characteristics — can participate in city life.

(3) FAMILY-FRIENDLY TRANSPORTATION recognizes the importance of walking, cycling and public transit in family life. Urban planning generally pays little attention to how families move about to conduct everyday errands and routines to keep their household running. Yet because families work, shop, attend school and engage in other activities across the city, in their neighbourhood, on their street and in their home, they have a sophisticated understanding of the urban environment. As families increasingly turn to cities as a place to raise children, urban planners need to address their experiences.²⁴

Transport planners Richard Gilbert and Catherine O'Brien propose child- and youth-friendly land-use and transport planning guidelines for British Columbia.²⁵ These guidelines seek to increase children's active transportation, such as walking and cycling, and their use of public transit and to reduce their car travel and exposure to motorized traffic. Family-friendly transportation gives priority to alternative forms of transportation not only for the sake of non-drivers, such as children, the elderly or people with disabilities, but also for the sake of caregivers. Household chauffeuring, which refers to caregivers using a motor vehicle specifically to transport non-drivers, imposes various direct and indirect costs. Available US data suggest that 5 to 15 per cent of total vehicle travel consists of chauffeuring. The burdens include financial and time costs for drivers, most of whom are women, and external costs such as "traffic and parking congestion, infrastructure costs, accidents and pollution emissions compared with those trips made by non-automobile modes."²⁶

The increase in the number of parents in the Greater Vancouver area chauffeuring their children to school in the past several decades has raised alarm bells. For example, between 1984 and 1994, the number of grade-school students arriving and departing by car rose from one in three to almost half of all students.²⁷ Various programs, such as the Walking School Bus, International Walk to School, Active & Safe Routes to School and Hub for Action on School Transportation Emissions Project (HASTE), have sought to reduce car travel to and from school.²⁸ While educational and

The increase in the number of parents in the Greater Vancouver area chauffeuring their children to school in the past several decades has raised alarm bells.

20 P. Rode, G. Floater, N. Thomopoulos, J. Docherty, P. Schwinger, A. Mahendra and W. Fang, "Accessibility in Cities: Transport and Urban Form," NCE Cities Paper 03, *LSE Cities* (London: London School of Economics and Political Science, 2014).

21 Caren Levy, "Travel Choice Reframed: 'Deep Distribution' and Gender in Urban Transport," *Environment and Urbanization*, vol. 25, no. 1 (April 2013): 47–63.

22 Asha Weinstein Agrawal et al., *Getting Around When You're Just Getting By: The Travel Behavior and Transportation Expenditures of Low-Income Adults* (San José: Mineta Transportation Institute, 2011). See also Toronto Public Health, *Next Stop Health: Transit Access and Health Inequities in Toronto* (March 2013): <http://www.toronto.ca/legdocs/mmis/2013/hl/bgrd/backgroundfile-56681.pdf>.

23 Tristan Markle, "How Cities Can Fight Climate Change: Public Transit," *The Mainlander* (Vancouver): <http://themainlander.com/2014/03/05/how-cities-can-fight-climate-change-public-transit/>. See also Condon et al., *Transportation Transformation*.

24 Lia Karsten, "From a Top-down to a Bottom-up Urban Discourse: (Re)constructing the City in a Family-inclusive Way," *Journal of Housing and the Built Environment*, vol. 24, no. 3 (September 2009): 317–29.

25 Richard Gilbert and Catherine O'Brien, *Child- and Youth-Friendly Land-Use and Transport Planning Guidelines for British Columbia* (Winnipeg: The Centre for Sustainable Transportation, 2010).

26 Todd Litman, *Evaluating Household Chauffeuring Burdens* (Victoria: Victoria Transport Policy Institute, 2014), p. 9.

27 See <http://www.toolsforchange.com/English/CaseStudies/default.asp?ID=135>.

28 City of Vancouver, "Walking, Cycling and Carpooling to School," <http://vancouver.ca/people-programs/walking-cycling-and-carpooling-to-school.aspx>.

If households are to live, work and play in complete communities, the local environment must provide not only nearby amenities but family-oriented routes and modes of transportation to reach them.

promotional programs are helpful, they tend to be underbudgeted and limited in what they can do.²⁹ More effective, according to parents, are street designs such as bumped-out curbs at corners that reduce the distance a child has to cross at an intersection on a school route.³⁰ More effective still to reduce chauffeuring burdens and traffic are long-term strategies that promote complete communities³¹—building schools within walking distance of home and making streets safer for children.

Vancouver has developed a family-friendly housing strategy to attract families with children back into the high-density downtown area.³² According to Vancouver's Former Chief Planner Brent Toderian, designing a downtown for families "starts with planning with the parent and child in mind. Is this a place kids want to be? A place where parents have what they need, family-raising infrastructure and support systems? We like to say 'a neighbourhood that's designed to work for kids, works for everyone.'"³³ This initiative has met with some success and garnered international attention. As of 2011, Vancouver's downtown neighbourhoods were home to more than 5100 children under the age of 15, which is nearly five times more children than in downtown Seattle and nearly nine times more than in downtown Portland.³⁴

Vancouver's approach to family-friendly housing deserves a great deal of credit, but questions remain about how well the policies are being adhered to and how to update the original guidelines.³⁵ Such an update on family-friendly housing guidelines, we argue, needs to be extended to other areas of the city and complemented with family-friendly transportation. If households are to live, work and play in complete communities, the local environment must provide not only nearby amenities but family-oriented routes and modes of transportation to reach them.

29 Sylvia Parusel and Arlene Tigar McLaren, "Cars before Kids: Automobility and the Illusion of School Traffic Safety," *Canadian Review of Sociology*, vol. 47, no. 2 (2010): 129–47.

30 See <http://blogs.vancouver.sun.com/2012/08/22/walking-school-buses-gain-traction-in-metro-vancouver/>.

31 Litman, *Evaluating Household Chauffeuring Burdens*.

32 City of Vancouver, *High-Density Housing for Families with Children Guidelines* (adopted by City Council on 24 March 1992).

33 Brent Toderian, "Want Families Downtown? Design for Them!": http://www.huffingtonpost.ca/brent-toderian/downtown-families-urban-planning_b_1866169.html.

34 Jennifer Langston, "Are You Planning to Have Kids? (Part 1)," *Sightlines* (2014): <http://daily.sightline.org/2014/07/08/are-you-planning-to-have-kids-part-1/>.

35 Bryan Sherrill, *The Suburbanization of the City: Assessing the Family Friendliness of Downtown Vancouver's New Row Houses* (master's project, School of Community & Regional Planning, University of British Columbia, 2007).

Policy context

Transportation sustainability in Vancouver

Mobility is essential in today's world, both for economic opportunity and for social well-being. However, an automobile dependent community undermines the right to mobility for all. Children become reliant on their parents to drive them around, people with low incomes face restricted employment options and elongated commuting times, while seniors and people with disabilities have fewer opportunities to leave their homes.³⁶

Walking, cycling, and transit are the lowest-cost and lowest-impact forms of transportation. They require the least amount of land, inflict the least environmental impact, have the greatest economic payback, and they promote the active lifestyles that contribute to good health.³⁷

THE CITY OF VANCOUVER and other levels of government have generated numerous studies and policies on sustainable transportation. At the provincial level, recent policies in British Columbia include the 2008 *Provincial Transit Plan* and the 2008 *Climate Action Plan*. At the regional level, Metro Vancouver initiatives include the 2008 *TransLink Transport 2040* plan, the 2011 *Regional Growth Strategy*, *Metro Vancouver 2040* and the 2014 *Mayors' Council on Regional Transportation's Regional Transportation Investments*. At the city level, Vancouver has the 2011 *Greenest City 2020 Action Plan*, the 2012 *Pedestrian Safety Study & Action Plan* and the 2012

Walking, cycling,
and transit are the
lowest-cost and
lowest-impact forms
of transportation.

36 Paul Hillsdon and Nathan Pachal, *Leap Ahead: A Transit Plan for Metro Vancouver* (August 2013): <http://leapaheadyvr.com/leapahead.pdf>, p. 7.

37 TransLink, *Regional Transportation Strategy: Strategic Framework* (July 2013): http://www.translink.ca//media/Documents/plans_and_projects/regional_transportation_strategy/rts_strategic_framework_07_31_2013.pdf, p. 5.

Transportation 2040 plan. This literature addresses a broad range of transportation infrastructure issues, such as the vast network of road and transit systems connecting the 24 local authorities that comprise Metro Vancouver and that stretch beyond the region. It is within this complex context of powerful governing bodies, which includes the BC government, Metro Vancouver and TransLink (the regional transportation authority), that the City of Vancouver makes transportation decisions. *Transportation 2040* is the key document outlining the city's current strategy to develop sustainable transportation.

Thanks to burgeoning documentation, the costs of auto dependency and the reasons for prioritizing more active transportation and transit are quite well known. These facts were often taken into account and cited by the parents in our study as factors that help to shape their everyday transportation practices. However, from our examination of their experiences, it is evident that the existing Vancouver transportation policy has limitations. While it makes a crucial connection between sustainable transportation and land use (particularly complete communities), it pays less attention to social justice and family-friendly initiatives. These policy issues, we argue, are necessary for a viable shift away from auto dependency to more sustainable transportation choices.

TRANSPORTATION SUSTAINABILITY POLICIES

By 2040 Vancouver hopes to reach a mode-share target in which at least two-thirds of all trips will be made on foot, bike or transit.

According to the *Transportation 2040* plan, Vancouver is already a multi-modal city and has the potential to adopt more sustainable transportation.³⁸ Over the 15 years between 1996 and 2011, despite a growing city population (18per cent) and an increase in jobs (16per cent), the number of vehicles entering the city on a daily basis declined by 5 per cent.³⁹

By 2040 the city hopes to reach a mode-share target in which at least two-thirds of all trips will be made on foot, bike or transit. To reach this goal, *Transportation 2040* emphasizes land use as one of the city's high-level policies and outlines several measures that support complete communities. The policies aim to "bring people closer to their daily destinations and make walking the easiest and most convenient option for many trips."⁴⁰ *Transportation 2040* gives less consideration to our two other key issues.

SOCIALLY JUST TRANSPORTATION?

Transportation 2040 draws upon a model of the inclusive city and notes that groups such as seniors, parents with young children and people with disabilities are particularly vulnerable and disadvantaged in transportation. However, the policy does not systematically integrate the issues of social inequality and social justice into its analysis. This omission is unfortunate given Vancouver's severe problems of concentrated poverty, lack of affordability and homelessness⁴¹

38 City of Vancouver, *Transportation 2040*.

39 Steve Brown et al., *Vancouver Transportation Plan Update* (paper prepared for the 2012 Conference of the Transportation Association of Canada, Fredericton, NB): <http://conf.tac-atc.ca/english/annualconference/tac2012/docs/session18/krueger.pdf>.

40 City of Vancouver, *Transportation 2040*, p. 17.

41 City of Vancouver, *Towards a Healthy City for All* (presentation to Vancouver City Council, 10 July 2013): http://vancouver.ca/files/cov/Healthy_City_Strategy_Report_to_Council.pdf.

and the fact that the city has a Social Development Plan (SDP) that strives to coordinate responses to such challenges in all aspects of planning.⁴²

While *Transportation 2040* emphasizes children's vulnerability as pedestrians, it does not take into account the fact that children in the lowest socio-economic bracket are more at risk of pedestrian death than children in the highest socio-economic bracket.⁴³ In addition, the document does not consistently address affordability. Since many Vancouver families live on low incomes, making public transit affordable should be a central concern for transportation policy makers. In our interviews, it was a prominent issue. Without affordable transit, many parents could not easily access vital resources or were unwilling to use transit if they were already paying the expenses of a car. Without attending to social justice issues, transportation and land-use policy can fall into the trap of reproducing and contributing to social inequalities that exist in the city.

FAMILY-FRIENDLY TRANSPORTATION?

Transportation 2040 gives priority to walking and acknowledges that it is central to children's daily mobility. It does not, however, integrate child-friendly policies into its mandate. Yet policy concerns are growing about how adult-oriented transportation (particularly the car) undermines children's independent mobility, physical exercise, health, safety and socialization.⁴⁴ Several Vancouver planning initiatives, including the 2009 *Youth Vital Signs* report⁴⁵ and the Comox–Helmcken Greenway transportation route across Downtown,⁴⁶ have involved youth. However, very few systematic Vancouver-specific data are available on the transportation habits of young children,⁴⁷ and notions about how to integrate family-friendly transportation into Vancouver's sustainable urban policy are undeveloped.

These three policies—complete communities, socially just transportation and family-friendly transportation—help to address parents' concerns about transportation. The parents do not speak in one voice. On the contrary, our study explores the differences in parents' experiences and views and how they correspond to existing research on urban land use and transportation.

Without affordable transit, many parents could not easily access vital resources or were unwilling to use transit if they were already paying the expenses of a car.

42 Inclusive Cities Observatory, *The City of Vancouver's Social Development Plan: Towards Coordinated Planning and Decision-Making for Social Inclusion* (Vancouver: United Cities and Local Governments, 2010): <http://www.cisd.org/en/observatory/towards-coordinated-planning-and-decision-making-social-inclusion>

43 Jones and Lucas, "The Social Consequences of Transport Decision-making." See also Ediriweera Desapriya, Meridith Sones, Tansey Ramanzin et al., "Injury Prevention in Child Death Review: Child Pedestrian Fatalities," *Injury Prevention*, vol. 17, supplement I (February 2011): i4–i9.

44 Gilbert and O'Brien, *Child- and Youth-Friendly Land-Use*.

45 City of Vancouver, *Children, Youth and Families in Vancouver* (Social Policy Division, Social Development Department, Community Services Group, 2011): http://www.vancouver.youth.ca/toolkits_publications.

46 City of Vancouver, *Administrative Report to Standing Committee of Planning, Transportation and Environment* (November 28, 2012): <http://former.vancouver.ca/ctyclerk/cclerk/20121212/documents/ptec3.pdf>.

47 City of Vancouver, *Children, Youth and Families in Vancouver*.

Families and transportation in Vancouver

TRIP DIARY SURVEYS and journey-to-work data provide useful snapshots of travel patterns in Vancouver. Very little is known, however, about how families move around the city in everyday life and what their practices might mean for the future direction of transportation.

COMMUNITIES INCLUDED IN THE STUDY

The study is based upon a project funded by the Social Sciences and Humanities Research Council (SSHRC) that conducted in-depth, semi-structured interviews in 2011 and 2012 with parents in four Vancouver communities.⁴⁸ To identify participants, we placed notices at local daycare centres, schools, libraries and community centres in each community. To be eligible, a family had to include at least one child aged 12 or less and live in the specified area. Altogether, 52 participants consented to be interviewed: 43 mothers, eight fathers and one grandmother (who supplemented parental care) in 49 households. In three of the households, more than one parent participated in the interview. Seventy-six children aged 12 years old or younger lived in the study

⁴⁸ Sylvia Parusel provided invaluable research assistance to this study, which was funded by the Social Sciences and Humanities Research Council of Canada.

households. Thirty-three households owned a motor vehicle; 16 did not. The interview questions about household routines, local neighbourhoods and streets, and mobility practices and experiences were open-ended, which allowed participants to talk about experiences from their own points of view. All interviews (each of which lasted about one-and-a-half hours) were recorded and transcribed. The analysis emerged out of a careful coding of the interview data using NVivo qualitative software.

Out of Vancouver's 23 administrative urban areas, the study selected Downtown, Dunbar-Southlands, Sunset and Grandview-Woodland (see the City of Vancouver map).



Source: City of Vancouver *Communitywebpages*, http://former.vancouver.ca/community_profiles/CommunityList.htm.

To select the communities, we used two primary criteria related to their location: inner city or inner suburb and west or east side of the city. These criteria helped to identify communities with different built environments (e.g. density, housing types, transportation infrastructure) and socio-economic characteristics.

Tables 1, 2 and 3 illustrate key variations among the four communities—their density, socio-economic characteristics and residents' usual mode of travel to work—that play a role in parents' and children's transportation experiences.

Density

Building density has a bearing on whether or not residents are able to reach the facilities they need daily by walking, bicycling or using public transit. According to Table 1, Downtown has the highest density, followed by Grandview-Woodland, Sunset and Dunbar-Southlands.

Building density has a bearing on whether or not residents are able to reach the facilities they need daily by walking, bicycling or using public transit.

Table 1: Four Vancouver communities: Building density (2006)

	Downtown	Dunbar-Southlands	Sunset	Grandview-Woodland	Vancouver
Single-detached house (% of type of dwelling)	0.1%	71%	24%	10%	19%
Dwellings per hectare	67	9	17	32	22

Source: Statistics Canada (2006 Census), City of Vancouver *Communitywebpages*, http://former.vancouver.ca/community_profiles/CommunityList.htm.

Socio-economic characteristics

As Table 2 indicates, the communities vary socio-economically. Dunbar-Southlands has the highest median household income, followed by Sunset, Downtown and Grandview-Woodland. Sunset has the lowest proportion of residents whose mother tongue is English, followed by Downtown, Grandview-Woodland and Dunbar-Southlands. Grandview-Woodland has the highest proportion of single-parent families, followed by Sunset, Downtown and Dunbar-Southlands. Sunset has the largest average size of household, followed by Dunbar-Southlands, Grandview-Woodland and Downtown. These socio-economic characteristics help to provide a “social lens” through which to understand transportation practices.

Table 2: Four Vancouver communities: Socio-economic characteristics (2006)

	Downtown	Dunbar-Southlands	Sunset	Grandview-Woodland	Vancouver
Population	43,415	21,480	35,230	28,205	578,041
Median household income	\$44,218	\$86,885	\$51,311	\$35,342	\$47,299
English-speaking	56%	68%	25%	62%	49%
Chinese-speaking	14%	16%	21%	14%	25%
Single-parent families	11%	11%	16%	26%	16%
Average size of household	1.7	2.9	3.2	1.9	2.2

Source: Statistics Canada (2006 Census), City of Vancouver *Communitywebpages*, http://former.vancouver.ca/community_profiles/CommunityList.htm.

While all the study communities are heterogeneous, Downtown is the most complex. Located on Vancouver's northern peninsula, it straddles geographically the west/east divide and has some of Vancouver's wealthiest as well as poorest residents.⁴⁹ The study selected Downtown because it is the core area of the city undergoing dynamic change, including becoming a growing destination for families with young children to reside.⁵⁰

Mode of travel to work

It is well known that Canadian cities are highly car dependent.⁵¹ In Vancouver the majority of people (51.5 per cent) drive a motor vehicle to work and a further 6.1 per cent are motor vehicle passengers. Only one-quarter of Vancouver residents use public transit, while less than one-fifth walk or bicycle to work (see Table 3).

However, this profile varies depending on where people reside. Of the study communities, Dunbar-Southlands has the highest percentage of residents who drive to work (69.4 per cent), followed by Sunset (59.9 per cent), Grandview-Woodland (42.5 per cent) and Downtown (38.2 per cent), reflecting the general trend that living closer to the city centre and in dense locations reduces car dependency.⁵²

Only one-quarter of Vancouver residents use public transit, while less than one-fifth walk or bicycle to work.

Table 3: Four Vancouver communities: Mode of travel to work (2006)

Mode of travel to work	Downtown	Dunbar-Southlands	Sunset	Grandview-Woodland	Vancouver
Car, truck, van (as driver)	38.2%	69.4%	59.9%	42.5%	51.5%
Car, truck, van (as passenger)	3.2%	6.3%	9.6%	5.9%	6.1%
Public transit	16.3%	14.6%	24.7%	34.1%	25.1%
Walked to work	37.9%	3.5%	3.6%	8.1%	12.2%
Bicycle	2.0%	4.7%	1.1%	7.3%	3.7%
Other method	2.4%	1.5%	1.1%	2.1%	1.3%

Source: Statistics Canada (2006 Census), City of Vancouver *Communitywebpages*, http://former.vancouver.ca/community_profiles/CommunityList.htm.

49 David Ley and Nicholas Lynch, "Divisions and Disparities in Lotus-Land: Socio-Spatial Income Polarization in Greater Vancouver, 1970–2005." *Research Paper 223* (Toronto: Cities Centre, University of Toronto, 2012).

50 According to the 2006 Census, Yaletown (an area in Downtown) has the highest percentage of infants and toddlers relative to the total population (City of Vancouver, *Social Indicators and Trends Report*, 2009): https://drive.google.com/file/d/0B_sWgT7MEctscW5fRC1FSG4xUGM/edit?usp=sharing.

51 Martin Turcotte, "Dependence on Cars in Urban Neighbourhoods," *Canadian Social Trends*, no. 85 (Summer 2008): 20–30.

52 Ibid.

Interestingly, virtually the same number of Downtown residents walk (37.9 per cent) as drive a motor vehicle to work. Public transit is the second most widely used mode of travel to work in the other three communities. Grandview-Woodland has the highest proportion of residents that use public transit (34.1 per cent), followed by Sunset (24.7 per cent), Downtown (16.3 per cent) and Dunbar-Southlands (14.6 per cent). Bicycling to work is highest in Grandview-Woodland (7.3 per cent), followed by Dunbar-Southlands (4.7 per cent), Downtown (2 per cent) and Sunset (1.1 per cent).

STUDY PARTICIPANTS AND HOUSEHOLD PATTERNS

Community characteristics are mirrored in many aspects of the study participants' household lives. The following tables consider income, family structure and gender.

Families and annual household income

Downtown and Grandview-Woodland had the highest proportion of single-parent households (most were headed by women). Dunbar-Southlands had the highest proportion of two-parent households and Sunset had the highest proportion of extended family households.

Annual household income as reported by participants reflects their particular community and is an important benchmark for indicating people's ability to access vital resources such as housing and transportation. As Table 4 indicates, Downtown participants had the most mixed incomes, with five households having an annual income below \$50,000, three between \$50,000 and \$90,000, and four over \$90,000. The majority of Dunbar-Southlands households had annual incomes over \$90,000. The majority of Sunset households had annual incomes under \$50,000,⁵³ and half of Grandview-Woodland households had annual incomes under \$50,000. These distributions approximate closely those of the census data for each community.

Table 4: Parent household annual incomes (n=49)

Parent annual household income	Downtown	Dunbar-Southlands	Sunset	Grandview-Woodland	Total
Low income (<\$50,000)	5	1	9	6	21
Middle income (\$50,000–\$90,000)	3	4	3	5	15
High income (>\$90,000)	4	7	1	1	13
Total	12	12	13	12	49

Family household structures

How many adults there are in a household has a bearing on family resources and parental responsibility for children's transportation. As Table 5 indicates, household composition varied according to community. Downtown and Grandview-Woodland had the highest proportion of single-parent

⁵³ Several Sunset participants may have underestimated household incomes, due in part to the interviews being conducted in English, which was their second language, and to participants reporting their individual income rather than the entire household's income.

households (most were headed by women). Dunbar-Southlands had the highest proportion of two-parent households and Sunset had the highest proportion of extended family households (consisting of elderly parents and/or adult siblings besides the immediate family).

Table 5: Parent household structures (n=49)

Parent household structures	Downtown	Dunbar-Southlands	Sunset	Grandview-Woodland	Total
One-parent household	5	0	2	5	12
Two-parent household	7	11	7	6	31
Extended family household	0	1	4	1	6
Total	12	12	13	12	49

While parents' transportation choices were generally driven by the practical affairs of everyday life, they also reflected broader concerns about increasing active mobility, enriching travel experiences and reducing the impact of the personal motor vehicle on the environment.

Parents' gender

As Table 6 indicates, most of the study participants were women. Their predominance in the study is not surprising since women generally have more responsibility than men for chauffeuring and escorting children (although some men are quite involved⁵⁴) and most one-parent households are headed by women.⁵⁵

Table 6: Study participants' gender (n=52)

	Downtown	Dunbar-Southlands	Sunset	Grandview-Woodland	Total
Women	10	9	13	12	44
Men	2	4	2	0	8
Total	12	13	15	12	52

These patterns illustrate differences in households that are linked to each community and that have a bearing on parents' transportation choices and practices, but they are not deterministic. For example, there were parents who could afford to own a car but chose not to; there were those who lived in a low-density area but used their car as little as possible; there were those who could not afford to use a car but saw their "carlessness" as normal and appreciated the benefits of more active travel. While parents' transportation choices were generally driven by the practical affairs

54 John Barker, "Manic Mums' and 'Distant Dads'? Gendered Geographies of Care and the Journey to School," *Health & Place*, vol. 17, no. 2 (March 2011): 413–21.

55 Canadian Broadcasting Corporation, "Women head most single-parent families in Vancouver: census" (12 September 2007): <http://www.cbc.ca/news/canada/british-columbia/women-head-most-single-parent-families-in-vancouver-census-1.672041>

of everyday life, they also reflected broader concerns about increasing active mobility, enriching travel experiences and reducing the impact of the personal motor vehicle on the environment.

FAMILIES AND TRANSPORTATION EXPERIENCES

Data on the mode of travel people use to get to work in Vancouver contribute to our understanding of transportation in relation to employment. These measures do not, however, take into account how families organize their daily travel. Interviews with parents help to provide insight into how families coordinate complex household schedules and activities that involve a variety of destinations and take place in diverse circumstances. In particular, the parents' experiences illustrate the ways in which family car dependency is not quite as entrenched in daily life as is commonly believed. Despite the fact that auto dominance is alive and well in Vancouver, and travelling with children poses special challenges, most families tended to be multi-modal or altermobile and seeking transportation options that would serve them better.

Downtown

Whether or not they owned a car, most Downtown parents wanted to use active transportation; for example, to get exercise, engage with community life, protect the environment or avoid the cost of public transit.

Downtown was the most densely populated area of the communities studied. It had the most mixed levels of household income and the lowest proportion of residents driving a motor vehicle to work. While the high density did not preclude many of the Downtown parents from owning a car, car ownership was considerably less than among Dunbar-Southlands parents. Several did not own a car.

Of the study participants, Downtown parents were the most likely to walk and bicycle in their daily routines and appreciated being able to do so:

[The neighbourhood] is very family-oriented, I'd say. It's interesting and there's always stuff to do within walking distance. Everything's within walking distance; that's one thing I like.

—Mother of a 5- and a 2-year-old, low-income household, one car⁵⁶

Whether or not they owned a car, most Downtown parents wanted to use active transportation; for example, to get exercise, engage with community life, protect the environment or avoid the cost of public transit:

A lot of us talk about how when you walk to school you really get to know your community, your feet are attached to it.... I think most of the people that choose to live in the city, transportation was really important to them as a value even, about how often you drive, and what kind of carbon footprint you have and what you're teaching your children. —Mother of a 7- and a 4-year-old, middle-income household, one car

I love biking and walking...it's a question of expense as well. That factors in, you know, even the three bucks.... If it wasn't an expense, sure I'd be taking [public transit] more often. —Father of a 12-, a 9- and an 8-year-old, low-income household, no car

Some Downtown parents preferred to use public transit as their primary mode of transportation:

We pretty much always get transit. [My daughter] really likes taking transit; it's part of the adventure [of getting somewhere].... When she was very little I preferred taking transit,

⁵⁶ We use the term "car" to include a variety of personal motor vehicles (e.g. the standard automobile, sport utility vehicle (SUV), van and small truck).

even though we had a car then, because I could nurse her. —Mother of a 2-year-old, high-income household, no car

But because of limited public transit services, many parents felt forced to use their cars for activities such as paid employment and schooling:

I need a car to go to work because I work shift. It's impossible to take a bus, you know, when you work shift, and the location is quite removed too. —Mother of a 3-year-old, low-income household, one car

It's only because when we started the preschool, we started to drive a lot. Otherwise I've been walking every day.... Switching [between] two buses probably would take, I would say, maybe 45 minutes.... And if we miss a bus, that would be a different story! —Mother of a 3-year-old and a 16-month-old, high-income household, one car

Although Downtown has some features of a sustainable and complete community in that local amenities are nearby, in many ways it is not child- or parent-friendly. Because of limited preschool or school options, several parents drove their children to other neighbourhoods, which ran counter to wanting to travel locally on foot:

And so I take [my son] to school and fight through rush-hour traffic...and then turn around and take my other son back...to daycare.... I spend about two hours a day commuting, despite living downtown and working from home and...that's not how I wanted my life to be. —Mother of a 7- and a 4-year-old, middle-income household, one car

Many Downtown parents wanted to use public transit more than they did but generally—whatever their household income—did not find public transit very affordable, especially if several members of a family travel together:

Public transportation is ridiculously expensive here. Which is silly because it discourages—like it should not be cheaper to drive.... We try to not go on public transit, even though I'd love to, especially with the kids. —Mother of a 4- and a 2-year-old, high-income household, one car

It's a little bit costly for families.... I would probably use it a lot more if I could get some sort of subsidized pass...just like "get around green" or something. —Mother of a 16-, a 6- and a 5-year-old, low-income household, one car

While the cost of public transit prevented many families from using it, these parents provided suggestions as to how transit could be made more affordable, such as shifting more cost onto motor vehicle drivers and less onto transit users and initiating a "get around green" subsidized pass for families.

Unfortunately, given the high volumes of traffic, some parents felt that active forms of travel—which are also the most accessible and affordable forms of transportation—are too dangerous for children:

There are many cars.... I don't want [my children] to use the scooter on the street or on the sidewalk. It's kind of dangerous for them. Sometimes, because of the wheel, when they don't control it very well, [the scooter] might go out on the street. —Mother of a 9- and a 5-year-old, low-income household, one car

Most of the Downtown parents appreciated living close to daily amenities and being able to walk or bike to them. However, their residential areas were limited as complete, equitable and family-

Many Downtown parents wanted to use public transit more than they did but generally—whatever their household income—did not find public transit very affordable, especially if several members of a family travel together.

friendly communities. Most notably, the parents found they did not provide enough nearby preschools or elementary schools for the growing population of young children, convenient and affordable bus services for reaching specific destinations night and day, and streets designed for children to travel safely on their own, whether walking, biking or scootering.

Dunbar-Southlands

Dunbar-Southlands is the least dense, most affluent and car-oriented of the study communities. All parent households owned a motor vehicle (and almost half owned two or more cars). Their transportation experiences were, however, far more varied than simply being car dependent, and often included walking, biking and/or transit.

About half of the Dunbar-Southlands parents used the car as their primary mode of transportation. They had many reasons for preferring to use a car, which included convenience, time efficiency, carrying “stuff” associated with children and accomplishing multiple tasks:

There are never enough hours in the day to do all the things one wants to do, and so the car makes getting to and from places easier; there's no question, faster.... It's convenient in terms of carrying stuff. There is so much stuff you have to carry with children. —Mother of a 5- and a 2-year-old, high-income household, two cars

Parents generally appreciated the benefits of car use, but many acknowledged its problems:

I hate filling the car up, paying for it. I hate the pollution most of all, and what it does to our surroundings in our world.... If the whole family didn't have an option it would be just as easy, but the option is always there and it always feels easier. —Father of a 13-, an 8- and a 6-year-old, high-income household, one car

Families often preferred other modes of transportation, such as walking, biking or public transit:

I rarely use the van with the kids. I prefer walking to their dance class...and preschool and then we hop on the bus.... I live my life as if I don't have a vehicle as much as possible. —Mother of a 6- and a 4-year-old, middle-income household, one car

I don't like driving, so we just take the bus. Since it's convenient. And we bought this house because it's easy to take the bus to get here. —Mother of a 3-year-old, high-income household, one car

Daily amenities, however, were generally considered too far away for walking, and public transit was often unavailable, unreliable and difficult to use with a stroller:

I think we'd walk a lot more if we lived in, say, a more dense part of Kitsilano. The fact that we don't have so many amenities right next door, like a grocery store, just keeps us from walking as much as I'd like. —Father of a 4-year-old, high-income household, one car

I don't really like taking the big stroller on the bus unless we're going out for a really long day, just because if the bus is full it's hard to get on and it's just a little, you know, it's bulky and unwieldy. —Mother of a 4-year-old and an 18-month-old, low-income household, one car

Some parents would like to use public transit more:

About half of the Dunbar-Southlands parents used the car as their primary mode of transportation.

Our society is...quite a bit isolationist.... I think that would be another benefit of using public transit is that it's a public space where children can interact with other people. —Father of a 9- and a 7-year-old, high-income household, two cars

Like if they ran the transit, if they ran the subway like along 41st, I think we would actually, could use it, you know, to get places. Yeah. I mean the few times I've taken it with the kids I've been pretty impressed with how quick, like how quick the service is now. —Mother of a 5- and a 2-year-old, high-income household, two cars

Although Dunbar-Southlands households were relatively affluent, many found that the cost of transit was a disincentive to travel as a family. In particular, it compared poorly with using a car:

We typically use the bus for us but not as much with the kids...because of the costs.... I guess you don't think about the money in the gas tank, but it's there. —Mother of a 13-, an 11- and a 9-year-old, middle-income household, one car

Although the car was essential for many Dunbar-Southlands families in their daily lives, most parents were not completely auto dependent and many attempted to reduce car use. They often wanted active travel with their children; however, most destinations were not within walking distance, and the streets were often too dangerous for children to use bikes. Some parents took transit on a daily basis, but most did not live close to a convenient and reliable bus service. Many of the parents would like transit services to be more available and affordable for families, which would give them more options in their daily travel.

“We typically use the bus for us but not as much with the kids...because of the costs.... I guess you don't think about the money in the gas tank, but it's there.”

Sunset

Sunset is an inner suburb similar to Dunbar-Southlands. It has low density but is less affluent. Of the study communities, Sunset had the second-highest proportion of residents driving a motor vehicle to work. Nonetheless, most of the Sunset parents used public transit as their primary mode of transportation rather than a car.

Some Sunset parents considered a car essential to their daily lives. They found it allowed them to be flexible and efficient and enabled big-store shopping. Travelling by bus with a child could be a “nightmare”:

[When we didn't have a car, it was] very tough. Time consuming, waste of time, nothing gets done the whole day. You go out to a mall and it's done, your day is all—Or you go for grocery shopping, that's all you can do the whole day because you're waiting for bus each and every time from one point to another for 10 minutes, half an hour. And with a kid...it's a nightmare. —Father of a 4-year-old, low-income household, one car

Several households had one or more cars to help transport extended family members:

A car goes with my husband when he is working. Because my father-in-law, my mother-in-law, my two baby and my husband and me, the whole family, right, we have a bigger car. —Mother of a 4-year-old and a 9-month-old, low-income household, two cars

However, many parents liked where they lived in Sunset because of its nearby amenities, including transit:

I find everything convenient for day-to-day living. The shops here, the transit here, the library's here, the community centre's here. So, you know, compared to other parts of the

city, this area is great, you know, for families. There's so much resources. —Grandmother of a 16-month-old, middle-income household, three cars

But walking in the area was often considered hazardous, especially near busy roads such as Knight Street, with its large industrial trucks and few traffic controls to slow down traffic:

There are trucks too, bigger transport trucks, that's why also lots in the area, Knight Street.... That's why I don't want to alone my daughter out on the traffic...[when she is] 14 years, then she's okay, she knows. —Mother of a 4-year-old, low-income household, three cars

Some parents liked taking public transit:

I like the bus, no the pressure, no stress —Mother of a 4-year-old, low-income household, one car

However, many parents found that the bus service was inadequate for various reasons that included not accommodating strollers:

It's really hard for me to, like occasionally...I'll fold up the stroller. But then I've got to hold her and I've got the stroller and it's kind of like "Ahh!", and I've usually got stuff too. So it's, yeah, strollers are kind of a hassle when you're using transit. —Mother of a 1-year-old, low-income household, no car

Compared with the bus, some families preferred the SkyTrain:

The SkyTrain is quick and on time.... [The bus] takes me a long time to go there. —Mother of a 5-month-old, low-income household, no car

The lack of affordability of public transit was an issue and, for some parents, compared poorly with the cost of a car:

Now once he's five, six they're going to start charging us, so that's like going to be an extra \$2.... It could be almost \$300 a month for us, and if it's that much then we could get a car. —Mother of a 5-year-old, low-income household, no car

Sunset families that lived close to the thriving Fraser Street commercial area and transit routes benefited from having amenities close by. Transit was often convenient, but many parents had experienced difficulties in travelling with children on buses, including the irregularity of the service, the lack of space for strollers and poor connections between buses. SkyTrain was generally preferred, but the cost of transit was an issue when travelling as a family. Walking also was often thought to be hazardous, given the major arterial roads that cut through the community.

Grandview-Woodland

Grandview-Woodland is an inner-city neighbourhood. Of the study communities, it is second to Downtown in its high density and in having a low proportion of residents that drive a motor vehicle to work. Grandview-Woodland parents were the least likely to live in a household with a car and generally did not use a motor vehicle in their daily routines. They often walked or rode bicycles and, similar to Sunset, most used public transit as their primary mode of transportation.

Some Grandview-Woodland parents who had access to a car liked using it:

Walking in the area was often considered hazardous, especially near busy roads such as Knight Street, with its large industrial trucks and few traffic controls to slow down traffic.

I prefer travelling by car, I guess, because it's faster and, you know just, especially if the weather is bad and you don't want to be waiting at a bus stop in the rain. —Mother of a 4- and a 1-year-old, low-income household, one car

Many, however, emphasized the benefits of alternative mobility:

I prefer the bus and SkyTrain and walking, just from an environmental point of view. And the kids finding their way around, rather than just getting into a car. —Mother of a 3-year-old and a 3-month-old, middle-income household, one car

We realized once you're on the bikes, there's really no need [to own a car]. And with the car share...it becomes sort of easier to do that as opposed to owning the car and paying for the costs of having your own car. —Mother of a 5- and a 2-year-old, middle-income household, no car

Several families in the study used such car-sharing networks as Modo, Car2Go or Zipcar, which reduced the cost of car use and increased flexibility in providing occasional access to a motor vehicle.

However, active mobility could often be stressful and dangerous due to traffic:

People get an incredible amount of speed coming down the hill or going up that hill...[and] just blow right through [the stop sign].... There's not enough lights on Commercial Drive. If you go to 4th Avenue down in the shopping district, there's a light on almost every block. —Mother of a 3-year-old and a 3-month-old, high-income household, one car

Although public transit was the primary mode of transportation for most Grandview-Woodland parents, some preferred taking SkyTrain and many had problems with the buses, such as their poor accommodation of strollers:

You get bus rage, you know, when the people are not happy because you're getting on, like I have this jogger buggy. —Mother of a 4-year-old and an 11-month-old, low-income household, no car

Lack of affordability of public transit was an issue for families in all the study communities, but especially in Grandview-Woodland. For those without a car, walking might be the only alternative, which could reduce access to vital resources such as the food bank or a doctor's appointment:

If we don't have any bus fare, we just don't go at all to the food bank. —Mother of a 19- and a 12-year-old, low-income household, no car

It's hard to explain to other people and you really don't get it until you've lived it, but I can't, sometimes I don't HAVE bus fare, I don't HAVE \$5 to spend to go down there to a doctor's appointment. —Mother of a 3-year-old, low-income household, no car

Many Grandview-Woodland parents lived close to daily amenities and transit and were able to get by without using a car. However, they often experienced difficulties with transit: its irregularity, its inability to accommodate strollers and its lack of affordability. The parents who had low incomes and were single mothers faced particularly harsh daily challenges. If they could not afford public transit, they and their children had poor access to crucial daily resources.

Several families in the study used such car-sharing networks as Modo, Car2Go or Zipcar, which reduced the cost of car use and increased flexibility in providing occasional access to a motor vehicle.

COMPARING THE STUDY COMMUNITIES

In the interviews, parents talked about transportation as a vital part of their daily lives as well as how they would prefer to travel and have their urban environment designed. Despite the prevalence of motor vehicle travel in Vancouver, the parents' experiences were generally multi-modal or altermobile, which involved walking, biking, using public transit or car-sharing networks. Multi-modality was often a matter of choice. Sometimes, however, it was a forced choice, as in the case of households that had no alternative but to own a car and use it due to inadequate local amenities or transit service. Altermobility was also sometimes a matter of choice. Many parents, however, had limited transportation options, especially those parents with low incomes who could not afford to own a car and sometimes could not afford public transit. Out of necessity, some parents relied on walking as their primary mode of travel.

Most parents who lived in neighbourhoods close to amenities (that approximate complete communities) enjoyed being able to reach those facilities by walking or bicycling.

Whatever mode of transportation parents took with young children, they had to be mindful of their kids' needs, including hunger, thirst, fatigue, boredom and safety. If parents walked or cycled with their child, they had to be careful of dangerous traffic or of the child becoming too tired. If they took transit, they could be left standing in the rain, struggling to board a busy bus with a stroller and/or having to transfer buses with a child and groceries in tow. If they drove a car, they had the stress of driving, plus sometimes having to pay attention to the road rather than to their child or contending with a child unhappily constrained in a car seat.

Most parents who lived in neighbourhoods close to amenities (that approximate complete communities) enjoyed being able to reach those facilities by walking or bicycling. They wanted their child to have physical exercise, to engage with their community by having their "feet attached to it," and/or to reduce their carbon footprint (impact on the environment). If they lived close to reliable transit routes, many preferred transit over the car because they considered it more convenient, less stressful, less dangerous, more social and entertaining, and a chance for their children to be part of a wider community. If they had access to car-sharing networks, parents liked the advantage of the reduced cost and flexible use to supplement walking, biking and transit options.

Parents' transportation experiences varied depending where they lived and how much they earned. Downtown parents, who theoretically were living in the most complete community, were the most likely to walk and/or bicycle with children but they faced obstacles such as not having schooling nearby or having poorly designed transit service. Dunbar-Southlands parents were the least likely to rely on alternative modes of transportation, but they were nevertheless generally multi-modal and wished to have more options available. However, amenities were usually thought to be too far away to be reached by walking or biking, and transit options were limited. Sunset parents were often able to walk to local amenities and had some choice about transit options, but bus services were generally not adequate or accommodating to families. Grandview-Woodland parents had the lowest car ownership of the communities studied. Many could not afford to own a car. Amenities, including transit, were often close enough to be reached by walking or biking but, again, transit was not very accommodating to families and could be too costly to use.

Transit

Although the availability of transit differed in the four communities, parents who used transit often experienced the same problems, particularly when travelling with young children. These difficulties included unreliable services, crowded buses, poorly designed routes that required changing buses, limited routes or scheduling that did not correspond to their daily or nightly

routines, inadequate accommodation for strollers or large shopping bags and a lack of affordability for families. In particular, Sunset and Grandview-Woodland parents, who were the most likely to rely on transit in their daily travel, experienced many of these transit problems. Some of these problems were lessened by using the SkyTrain, which many parents found more reliable than taking buses.

Transit's affordability was a major concern of parents across all four communities. Vancouver's transit system carries children four and under for free when accompanied by an adult, but many parents found that the concession fare that older children pay was a prohibitive cost (especially when a family travels together) or a cost that did not compare favourably with driving a car. Several parents considered Vancouver's fares too expensive relative to such cities as Beijing and Hong Kong. Parents made suggestions that would make transit more affordable; for example, a "get around green" subsidized pass for families, free transit for all children and a shift in user costs from transit onto driving.⁵⁷

Just as the City of Vancouver is seeking to develop more affordable and family-friendly housing, it needs to develop more affordable and family-friendly transportation. If the city wants to expand sustainable transportation, it needs to make transit more affordable for lower-income families as well as higher-income families that, otherwise, do not have an incentive to give up their cars.

These findings suggest that transit needs to have broader public support. In its *Transportation 2040* report, the city made transit, after walking and cycling, its priority as a vital means to stitching the city together and linking it to Metro Vancouver. Transit is inherently more equitable and child- and family-friendly than the private motor vehicle in accommodating a greater range of ages, abilities and incomes. It is also safer.⁵⁸ It has the potential to be high quality, affordable and far more sustainable than driving a car. If it accommodates families, transit will help the city to become more inclusive and reduce social exclusion and disadvantage. When children grow up using transit, they begin to value it and make it a part of their daily routine.

Walking and biking

Walking and biking are, of course, the most affordable and sustainable forms of transportation, and *Transportation 2040* gives them priority—especially in conjunction with the land-use policy of complete communities. Parents generally valued active travel with their children; however, dangerous traffic was a major stumbling block. Parents often had to be wary of roads with high traffic volumes, few traffic controls and an absence of safe pedestrian and bicycle routes.

Downtown has lots of motorized traffic but also lots of pedestrians, with traffic controls at many intersections.⁵⁹ Dunbar-Southlands has many "quiet, tree-lined streets" and a "safe, green, village-like atmosphere"⁶⁰ that helps to make it walkable. In contrast, Sunset and Grandview-Woodland have roads that were considered by parents to be particularly dangerous. Sunset has several routes that carry more than 25,000 vehicles in a 24-hour period, and Knight Street, the city's heaviest truck route, runs along the neighbourhood's eastern border and is known to have some of the

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57 Research shows that free transit passes contribute to a much higher transit ridership and lower greenhouse gas emissions (GHGs). *Why Cap-and-Trade Auction Proceeds Should Fund Affordable Homes Near Transit* (California Housing Partnership Corporation and Transform, 2013): http://www.transformca.org/sites/default/files/tod_housing_program_whitepaper_final_1.pdf.

58 Todd Litman, "A New Transit Safety Narrative," *Journal of Public Transportation*, vol. 17, no. 4 (2014): 112–35.

59 Andrew Nakazawa, *Walkability of Three Downtown Vancouver Streets: Evaluating the Physical and Perceptual Qualities of the Built Environment* (master's thesis, School of Urban and Regional Planning, Queen's University, Kingston, ON, 2011).

60 *CityPlan, Dunbar Community Vision* (approved by Vancouver City Council, 10 September 1998), p. 4.

Downtown

When walking, Patricia* kept her children on the inside of the sidewalk, away from the street, “so if they kind of decide to jump out, then I can grab them.” She recounted, however, a scary episode when her son darted out from the sidewalk by their parked car:

There was a car coming this way.... What if [my child] jumped out? Yeah, it's “what ifs”.... So later on I said,...“If I walk on sidewalk, you stand on this side. Stand on sidewalk; this is the sidewalk. The curb, here is sidewalk, and this is the street.”

The car did not come close to her son, but the “what ifs” preyed on Patricia’s mind.

Dunbar-Southlands

Paul recounted an episode with his daughter:

She ran right in front of my [parked] car and she ran on the road! I go, “What are you doing?!” You know...“The car’s right here, you just have to get in the car....” And she could have got killed easily...[by] a car just driving by at that particular moment. Luckily there wasn’t, and I went out there and said, “What are you doing?!” You know, “Get back off, this is a route!”

The incident “really shook” him up. It took place on a quiet, traffic-calmed street, but the possibility of a car speeding by was instantly imaginable.

Sunset

Nadira recounted an incident that occurred a year ago when she had started to cross a busy intersection at a green traffic signal with her son in the stroller:

[A truck driver] was driving so fast...that he didn’t see that the signal is red.... [Luckily, a nearby bicyclist pulled her back.] If he would not have done like that, my stroller was hit...and some accident would have [happened].... I got so scared. I got so scared.... [My son] was in the stroller. The difference was only I think two or three inches.

Nadira’s experience was a “close call.”

Grandview-Woodland

Catherine said she and her children live “dead centre” in traffic:

We have the main highway—I’d say it’s a highway because cars are just ripping. They’re ripping down Commercial; they’re ripping down East Hastings. One incident happened last fall.... Right in the middle of Commercial, boom, there’s a big car crash and we jumped. My daughters and I jumped away from the car accident because it was just like a few feet away.... And that’s the same thing on Pender, going down to Pender.... You get wind; it’s like a freeway. It’s, I tell you, it’s like a freeway. You have to be really careful when you look. You have to be really careful when you put your foot down [to cross the road].

Catherine talked about numerous close calls that she and her children had experienced as they walked in their local neighbourhood.

* The names presented here are pseudonyms.

most dangerous intersections in the city.⁶¹ Grandview-Woodland has various primary arterial roads that consist of two or more lanes in each direction, and as many as 50,000 vehicles travel them in a 24-hour period.⁶² Walking and biking are more treacherous in such high-traffic environments. For example, of the study communities, the number of pedestrian collisions per 100,000 residents and employees between 2005 and 2010 was highest in Grandview-Woodland (562), followed by Sunset (400), Downtown (382) and Dunbar-Southlands (133).⁶³

The accompanying box provides examples of parent-and-child experiences as pedestrians in each of the four communities. It illustrates how parents are sometimes forced to protect their children from traffic and how the various road systems in each community can lead to different degrees of risk. Some parents experienced serious “what if” traffic threats whereas others experienced even more serious “close calls.”

Parents’ experiences suggest that Vancouver needs to put more resources into designing roads that are child- and family-friendly (e.g. complete streets that are designed for multiple purposes and give priority to slower rather than faster modes of travel⁶⁴). This approach reduces the need for caregiver vigilance, which is especially crucial in socially disadvantaged and high-traffic environments. Were it not for parents and caregivers keeping a close watch over children, the risk of injury to child pedestrians would be much higher than it already is.⁶⁵

While *Transportation 2040* acknowledges that child-pedestrian safety is important, the city’s efforts to prioritize walking and biking need to address the disparities in road safety among Vancouver communities. The risk of pedestrian injury is much greater for children in low-income households compared with high-income households.⁶⁶ To be sustainable and inclusive, Vancouver needs a transportation policy that recognizes that current transportation infrastructure to support walking and biking is unevenly distributed. This recognition would require shifts in not only “moving people” but also in “moving goods and delivering services” as outlined in *Transportation 2040*. Neighbourhood equity, which is of considerable concern in Vancouver,⁶⁷ needs to extend to the kinds of roads and spaces that connect home and amenities. If planners take a parent- and child-eye view of local and neighbourhood travel, they will be more able to develop an equitable and sustainable transportation system that encompasses roads, sidewalks, bike paths and transit networks.

Parents’ experiences suggest that Vancouver needs to put more resources into designing roads that are child- and family-friendly.

61 The Sunset Vision Team, *Sunset Community Vision*: <https://vancouver.ca/docs/planning/sunset-community-vision-full-report.pdf>.

62 The Hastings-Sunrise Vision Team, *Hastings-Sunrise Community Vision*: <http://vancouver.ca/docs/planning/hastings-sunrise-community-vision-full-report.pdf>.

63 Downtown, however, had the highest number of pedestrian collisions (604) in the city. See City of Vancouver, *Pedestrian Safety Study: Final Report*, 2012: <http://vancouver.ca/files/cov/pedestrian-safety-study-2012-final-report.pdf>

64 See, for example, Slow Streets, *The Case for a Complete Street on Commercial Drive: An Observational Study* (January 2015): <https://slowstreets.files.wordpress.com/2015/01/the-case-for-a-complete-street-on-commercial-drive-slow-streets-jan-2015-2.pdf>.

65 Arlene Tigar McLaren and Sylvia Parusel, “‘Watching Like a Hawk’: Gendered Parenting in Automobile Urban Spaces,” *Gender, Place & Culture* (2014), doi: 10.1080/0966369X.2014.970141.

66 Jones and Lucas, “The Social Consequences of Transport Decision-making.”

67 See, for example, Vancouver City Planning Commission, *A Sustainable City of Sustainable Neighbourhoods* (2011): http://vancouverplanning.ca/symposium2011/symposium_results/sustainable_nh_report_v3.pdf.

Conclusion

Moving beyond the car

Existing research suggests that if a household shifts from automobile dependency to using other modes of transportation more often, it can benefit from substantial savings.

THIS STUDY CONSIDERS HOW PARENTS with young children experience transportation in Vancouver. The findings indicate a wide diversity in their experiences, which is linked to where they live, how much they earn, what they need to carry out their daily routine and what they think about such issues as their carbon footprint, children’s health and safety and community engagement. Although Vancouver stands out as an example of a “modern green metropolis” in North America,⁶⁸ it faces many challenges in supporting alternatives to motor vehicle transportation. Given the current dominance of the car in urban and transportation planning, a bold transformation plan is needed to realize Vancouver’s vision to become a sustainable city. The foundations for such a direction have been established in existing provincial, regional and city policies but these must be expanded and accelerated. Several strategies—involving the public in creating solutions, reallocating funds and developing innovative new financing—can make this happen.⁶⁹ While political will and leadership about strategies and funding are necessary, so also is “public acceptance and buy-in to the details of plans at a very local level.”⁷⁰

Existing research suggests that if a household shifts from automobile dependency to using other modes of transportation more often, it can benefit from substantial savings. Moreover, a societal shift from automobile dependency to more multi-modal and altermobile transportation choices contributes to greater social equity and could encourage parents in some households to drive less.⁷¹ Conventional transportation plans focus primarily on motor vehicle traffic conditions and

68 Esther Zipori and Maurie J. Cohen, “Anticipating Post-Automobility: Design Policies for Fostering Urban Mobility Transitions,” *International Journal of Urban Sustainable Development* (2014), doi:10.1080/19463138.2014.991737.

69 Condon et al., *Transportation Transformation*.

70 Ibid., p. 9.

71 Litman, *The Costs of Automobile Dependency*.

tend to overlook alternative modes and how travellers prefer them. These policies also tend to overlook such issues as inadequate transportation options for non-drivers, children or short trips. In contrast, newer approaches consider various modes and the connections among them as well as flexible funding to build and maintain a variety of programs and projects rather than just roadways.⁷² Our study adds to such research by providing evidence of parents who are already multi-modal or altermobile (either by choice or by necessity) in their daily practices and many who would prefer to live in neighbourhoods with greater access to walking, biking and transit.

To create a sustainable city, part of the solution is to develop complete communities. To date, complete community planning has generally focused on amenities for households without children, while not considering how such communities can be “opportunity-rich” for families with children by providing schools and health care within walking distance, and safe and nurturing environments.⁷³ They can be kid-friendly in their provision of “extensive shared green spaces and playgrounds in lieu of surface parking; no-traffic zones; and ample play spaces and [cycling paths, mixed land uses, and] high-levels of nearby transit services.”⁷⁴

Another part of the solution to creating a sustainable city is to distribute transportation fairly. This approach is a crucial way to bind communities together, especially when it involves inclusive forms of transportation, such as walking, biking and transit. And given that transit is essential to contemporary cities, it deserves critical public support.⁷⁵ Affordable public transit is necessary for families wherever they live or whatever their income, but particularly for families on low incomes to ensure they can access vital resources and participate socially in the city. Cities need to reduce public funds that subsidize car ownership, make more money available for public transit initiatives and decrease the volume of traffic in lower-income areas with its disproportionately negative effects on disadvantaged communities.⁷⁶

A family-friendly perspective is consistent with sustainability objectives that give walking the highest priority in transportation planning. But it goes further in calling for the reconfiguration and reallocation of space to enable children to travel independently, thereby reducing the burden on parents (which are most often women’s burdens) to chauffeur or escort them. Keeping in mind children’s rights to move around, play and explore in public space can help to reorient transportation in a more sustainable direction, including reducing, slowing down and eliminating traffic.⁷⁷ Several cities in Canada (e.g. Edmonton, Ottawa) and in British Columbia (e.g. Surrey, Abbotsford) have already identified the child- and youth-friendly city as a planning priority.⁷⁸ The City of Surrey, for example, adopted the 2006 *Plan for the Social Well-Being of Surrey Residents*, which establishes a child- and youth-friendly city as one of its priorities and includes alternative transportation and reduced car use as a vital component.⁷⁹

To create a sustainable city, part of the solution is to develop complete communities.

72 Todd Litman, *Introduction to Multi-Modal Transportation Planning* (Victoria: Victoria Transport Policy Institute, 2014).

73 The Center for Transit-Oriented Development and the Center for Cities & Schools, *TOD 205: Families and Transit-Oriented Development—Creating Complete Communities for All* (Berkeley: University of California, 2012), p. 2.

74 Robert Cervero and Cathleen Sullivan, “Kid-Friendly TODs,” *Working Paper 2010-02* (Berkeley: Institute of Urban and Regional Development, 2010), p. 1.

75 Levy, “Travel Choice Reframed.”

76 Power, “Social Inequality.”

77 See Gilbert and O’Brien, *Child- and Youth-Friendly Land-Use*, for specific child-friendly guidelines.

78 See, for example, Lucie Honey-Ray and Cherie Enns, *Child and Youth Friendly Abbotsford: Community Strategy* (Abbotsford: Child and Youth Friendly Abbotsford Working Group, 2009).

79 City of Surrey, *Creating a Child and Youth Friendly City: What Does It Mean? A Review of Child and Youth Friendly Policies and Practices From Other Cities* (2009): <http://www.surrey.ca/files/creatingacycityreport2009.pdf>.

For parents and children to shift increasingly toward using sustainable transportation options, more has to be done than simply removing barriers. Those involved in land-use and transportation design need to employ emotional appeals to attract parents and children to sustainable travel, just as the car industry created a love affair with cars.⁸⁰ If done well, alternative modes of transportation promise a sense of freedom, flexibility, convenience, safety, affordability, accessibility and aesthetics. The pedestrianized street and the cycling path attract people to shops, and well-designed transit draws people to use it regularly.⁸¹ If families with young children use these modes of transportation and enjoy them, children will gain the experience and knowledge to continue using and supporting them.

RECOMMENDATIONS

Families would benefit from strategic investments that reduce barriers to modes other than privately owned motor vehicles.

This study demonstrates how parents with young children are generally multi-modal or alternative and want more choice in using alternative forms of transportation. Their experiences suggest that families would benefit from strategic investments that reduce barriers to modes other than privately owned motor vehicles. We draw upon parents' experiences as well as other studies to extend the *Transportation 2040* policy framework by emphasizing complete communities, social justice and family-friendly transportation. Our recommendations are directed to the City of Vancouver and have relevance to other levels of government, such as the province, Metro Vancouver and TransLink, that share responsibility for transportation and the goals of sustainability.

Communities

- *Gradually increase building density across the city* to create more complete communities and enhance existing commercial, school, employment and transit areas with growing residential populations
- *Extend Vancouver's Social Development Plan (SDP)* to systematically integrate social issues of inequality and justice into transportation policies across the city

Car use

- *Consult with parents and children to create solutions to reduce car use* that include the school journey and the many other family destinations
- *Designate a city staff member* to consult with parents and children on appropriate transportation and land-use strategies
- *Monitor auto dependency effects on parents and children* (e.g. health, safety, interactions with community, chauffeuring) and develop priorities that take into account social disadvantage to reduce its ill effects
- *Address the biases in transport planning* that generally favour private motor vehicle travel, which is used more by those socially advantaged than disadvantaged

⁸⁰ Jones and Lucas, "The Social Consequences of Transport Decision-making."

⁸¹ Luis Rodriguez, "Pedestrian-Only Shopping Streets Make Communities More Livable," *Planetizen* (3 January 2011): <http://www.planetizen.com/node/47517>.

Multi-modality and altermobility

- *Develop multi-modal and altermobile transport plans*, which prioritize various modes of travel and their connections (rather than focusing primarily on roadways) and that reflect current parental practices and concerns about having more travel choices
- *Expand the availability of car-sharing programs* to provide more flexibility and choice for parents to get around

Walking and bicycling

- *Create complete communities* throughout the city that support the five-minute walk rule between home and amenities
- *Redesign road systems* equitably throughout the city to accommodate children's modes of travel
- *Minimize children's exposure to traffic* (e.g. separated sidewalks and bicycle paths, traffic calming, car-free zones, complete streets)

Transit

- *Improve transit services for parents and children* by addressing such key problems as crowded buses and buses that do not show up on time, poorly designed routes that require changing buses, limited routes or schedules that do not correspond to daily or nightly routines, inadequate accommodations for strollers and large shopping bags
- *Increase general tax revenue funding for public transit* and decrease it for private motor vehicles to help create better transit and make it more affordable relative to car use
- *Introduce more affordable options for families to use public transit use* (e.g. subsidized transit passes, free transit)
- *Provide high-quality, equitable public transit* that is accessible to and supported by all sectors of society



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