

Planning for Active Transportation

URBP (504) 3 credits Winter 2017

Instructor: **Ahmed M. El-Geneidy**, Professor
School of Urban Planning
Class Meeting: Macdonald Harrington
Building 420 Wednesday 11:35 am to 1:25
pm

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Course website: <http://tram.mcgill.ca/Teaching/URBP504/URBP504.html>

Course Description

This course examines the importance of planning for public transit, cycling and walking as means of transportation in a sustainable urban environment. It covers planning, design, and operations of transit systems, cycling facilities and walkways. The course studies relevant plans and examples from various cities to help students understand the importance of planning for active transportation.

Course Objective

The readings, lectures, case studies, class discussions, and assignments are designed so that by the end of this course, students will be able to:

1. Classify the different types of users involved in active transportation;
2. Gain basic knowledge about cost benefit analysis techniques for evaluating infrastructure projects related to active transportation;
3. Understand the key influences of planning and operations of transit service;
4. Distinguish the institutional and political barriers associated with coordinated land use- and active transportation planning;
5. Contrast active transportation planning policies being proposed to promote the use of active modes;
6. Develop research skills in locating and understanding past theories studying the effects of neighborhoods on travel behavior especially in the active transportation realm;
7. Critically analyze research that tests such theories related to active transportation;
8. Actively discuss and debate contested political planning issues; and
9. Identify detailed elements of the land use/ active transportation sub-field that may be appropriate for future thesis/project work.

Course Structure

The course is organized around one week lecture/class discussions followed by student presentations of paper critique.

Assignment and Evaluation Methods

Assignments	Description	Weighting
A. Discussion & attendance	Discussion questions and reading reflections and attendance in class as well as participation.	20
B. Case study	Every week students will present case studies related to the weekly topic and will draft a one page reflection.	10
C. Video and Policy Brief (1)	Educational video and a policy brief on aspects related to active transport and its relation to any of the following: health, environment, travel behavior and safety	30
D. Intersection Design: Planning Memo	Planning memo to the head of transportation department at the City of Montreal on the design of a specific intersection in Montreal	20
E. Travel behavior survey: Policy Brief (2) and presentation	Analyzing an active transport survey and presenting the findings in 2 minutes.	20

In fairness to all students, late assignments will be marked down by 10% for every late day. The *only* exception is for documented family and/or medical emergencies. It is in your best interest to please respect this edict.

The following rules apply to all assignments handed in by students: **Use 12 point font and at least 1 inch margins.**

A. Discussion and Attendance, Lectures and Readings

Discussion Component: The lecture component of this course consists of discussions of the readings and analyzing transportation plans and criticizing them based on the readings. Therefore you should have **READ THE MATERIAL BEFORE CLASS** and be ready for the discussion taking place in the class. Students are expected to come to class ready to be active participants in the discussion. If you get behind, always do the readings for the next class first. You need to read carefully for the argument or main facts, but you do not need to memorize every detail.

If you miss a class you are required to write a minimum of 2 page summary of the readings and submit to the instructor prior to the next lecture. Failing in doing so will lead to 10% deduction of your final grade in the attendance and participation for every summary you did not submit.

The final part of the lecture will include a case studies developed by students related to the class topic. See case studies for more details.

Readings

Readings will concentrate on academic articles, a list is included below and students can access these easily through the McGill library, you will need to be logged through VPN to access these papers. In addition I might ask you to read part of a transportation plan for one class or add a manuscript in week, additional papers will be assigned one week prior to the class and will be posted to my courses. These will be emailed to you one week prior to the class if it is required.

Readings Reflections and Questions

Every week each student is required to submit **3 to 4 questions** for class discussion about the week's readings on mycourses. The questions can be about points you liked or disliked in the readings or stuff you think we should explore further or discuss in the class. The questions can be linked to one manuscript or to a theme linking the manuscripts. In addition to **one paragraph** (500 words maximum, yes I will count them) of reflection about a point you liked in the reading and you think it is important for practice or a video you would like to watch and discuss that is related to the topic being discussed and relates it to practice. It is important that your paragraph and questions should be directed towards practical applications and its relation to the theory discussed in the readings. Students are encouraged to engage in discussions during the week on mycourses, yet please remember that discussions on every week's topic will be closed at a certain day and time. There will be a discussion session opened for every week's reading. Submission has to be done before **Tuesday at 9:00 am**. These reflections and questions should represent your thoughts about the readings and the take home lesson from the readings. You need to be critical in your thoughts and ideas presented. During the term **three sets of reflections and questions** will be selected randomly from the submitted ones and evaluated. Students will be assigned the higher mark of two of the three reflections. The reflections are only required for the assigned readings during the week. The submitted questions will be used to guide the discussions in the class.

B. Case studies

Every week two or three students will be giving presentations for 3 to 5 minutes (**this is an individual assignment**) and will prepare a one page reflection based on the weekly topic. The weekly case study will be looking in the assigned plans (see the course website for the list of plans) and/or will be looking for other plans and getting examples from these plans that supports or goes against or discuss topics similar to what was in the readings that week. The goal of the assignment is to link the weekly readings to planning practice through digging in the different transport plans and finding if the aspects discussed in the readings are covered in plans or not, and if they are covered how they are covered. You will need to use at least examples from three plans in your presentation and in your brief.

The one page reflection should be discussing the topic of the week, its presence and absence in the different plans and how the planning practice is linked or unlinked to the discussion papers.

Please note that the one page reflection is to be submitted as a hard copy at the beginning of the class and a soft copy to be uploaded online at mycourses before the class starts.

C. Video Production and Policy Brief (1)

Students will form groups, each group consists of 3 or 4 students to generate an educational video on one of the following topics:

- 1- Active Transport and Health
- 2- Emissions, the Environment and Active Transport
- 3- Built Environment Impacts on Active Travel
- 4- Personal Characteristics Impacts on Active Travel
- 5- Road Safety for Active Travel

You can use materials from any of the assigned readings or do your own search and find materials from any other sources. The goal of the video is to educate the public and policy makers about the importance of Active Transport and its relation to any of the previously discussed topics in the class. You can use local or international examples. The videos should be uploaded to the following channel mcgill.transportation.planning@gmail.com

The password will be provided in class so all students can load their videos.

Be creative, and have fun expressing yourselves! Students will be evaluated based on the clarity of how the transportation issue is discussed, quality of the arguments, demonstration of a

comprehensive knowledge of the issue, and approaches proposed to present the relation between the discussed topic and active transport. The videos must be 3 minutes long, all of the group members should participate, and clearly assess, critique, and suggest recommendations related to educating the public about active transport and its importance in relation to the discussed topic. All videos will be uploaded to the class channel on youtube. This channel will be closed after the class so keep your own copies afterwards. When using music please make sure to use public and not copyrighted ones.

In addition to the video each student should analyze and draft a one page max policy brief (12 point font and one-inch margins) to a senior policy maker in the City of Montreal. This policy brief will cover the same area you discussed in your video. The goal of the policy is to help the senior policy maker in understanding the relation between the discussed topic and active transport and how he can apply these principles to the Montreal region. Explain how and why these policies can help the Montreal region in the aspects mentioned earlier. The policy brief is an **individual assignment** while the **video is a group one**.

The Policy Brief 1 and Video are **due 21/2/2018**

Please note that policy briefs are to be submitted as a hard copy at the beginning of the class and a soft copy to be uploaded online at mycourses before the class starts.

D. Intersection Design: Planning Memo

You are representing a Montreal cycling advocacy group and you are assigned to write a planning memo to the head of the transportation department of the City of Montreal to redesign one of the following intersections in Montreal.

- 1- Berri and Ontario
- 2- Saint-Urbain and Rachel
- 3- Saint-Urbain and Pins

Many users (car drivers, cyclists and pedestrians) are unsatisfied with the current intersection. Among others, the following issues were raised:

- Conflicts between pedestrians and cyclists when the light is green for both.
- Lack of visibility heading to the intersection from different directions.
- Conflicts between cars and cyclists.
- Lack of space for the quantity of cyclists waiting at intersection.

Please propose solutions based on-site observation for one of these intersection and draft a 3 to 5 pages planning memo highlighting those solutions to improve the quality of the selected intersection

for all users. Use any kind of graphics to show your solution and highlight the problems at the intersection from your observations.

The Planning **Memo is due 28/3/2018**

All **Policy Briefs** and the **planning memo** should be submitted in both hard and electronic copies. I will be posting these online and send the link to the city by the end of the term.

E. Travel Behavior Survey: Policy Brief (2) and Presentation

You will be provided a copy of the McGill travel survey. The surveys are ready to use and analyze, you are required to use the raw data to present some findings from the survey. The finding can be identifying a problem or showing a phenomena or recommending a solution for a problem to the campus planning office. You are working in here as a representative of an advocacy group trying to help McGill in solving a problem or paying attentions to issues that need to be solved that you found through your analysis of the survey.

The analysis will be limited to the walking and public transit modes in this exercise.

Examples of problems that you can analyze but please do not limit yourself to these:

- 1- Satisfaction with existing infrastructure
- 2- Satisfaction with travel time
- 3- Hot spot analysis of dangerous areas in a city or region, use google street view to highlight issues found from the analysis
- 4- Which type of facility is problematic and why
- 5- Familiarities with laws and safety
- 6- Impacts of childhood on existing behavior
- 7- Areas that need an upgrade in the system and why
- 8- What are the major problems bus users are facing
- 9- Conduct comparisons across different transit modes to McGill and their impacts on individuals.
- 10- Impacts of responsibilities
- 11- Impacts of family and friends
- 12- Satisfaction with different modes of travel
- 13- Impacts of the mode selected on individual life satisfaction

Deliverables

- 2 minutes presentation **11/4/2018** in class.

- 3 pages policy brief representing the problem, your analysis, your findings and recommendation in solving the problem based on your readings and from the transport plans provided or previous examples from other regions.

Hints:

- It is not an easy assignment and requires a lot of work and time from you.
- Start early because you will get stuck.
- Read the survey questions well and come up with a research question or a problem.
- Come and communicate that with me as soon as possible to discuss during office hours or any time.

The policy brief are due on **11/4/2018** at the beginning of the class and the presentations will be held on the same day.

In Accord with McGill University's Charter of Students' Right, students in this course have the right to submit in English or in French any written work that is to be graded.

Academic Integrity

McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/integrity for more information).

Disabilities

If you have a disability please contact the instructor to arrange a time to discuss your situation. It would be helpful if you contact the Office for Students with Disabilities at 398-6009 (online at <http://www.mcgill.ca/osd>) before you do this. Accommodations will be organized through the OSD office, yet you will need to inform the instructors.

Dealing with Stress

If you feel stressed during the term do not hesitate to speak with any of the class instructors to discuss any possible needs around academic accommodations; students can also seek support from McGill's professional counseling services at: <https://mcgill.ca/counselling/about>.

Safety

McGill University shall strive to be recognized as a safe and responsible institution. Please see this link for more information regarding campus safety programs and services in place to ensure

the safety of McGill students (<https://www.mcgill.ca/campusafety/security-services/services>). For all emergencies please contact McGill security Services at 514-398-3000 or call 911.

CLASS SCHEDULES

Week/ Date	Lecture
10/1/2018	No class TRB annual Meeting
(1) 17/1/2018	Introduction: Why Planning for Active Transportation?
(2) 24/1/2018	Active Transportation and Health
(3) 31/1/2018	Emissions, the Environment and Transportation
(4) 7/2/2018	Active Transport and Road Safety
(5) 14/2/2018	Built Environment and Neighborhood Effects on Travel Behaviour
(6) 21/2/2018	Beyond the Built Environment: The Effect of Personal Characteristics on Travel Behaviour
(7) 28/2/2018	Walking and Pedestrianization Educational Video and Policy Brief due
7/3/2018	Reading week
(8) 14/3/2018	Cycling: Policies and Programs
(9) 21/3/2018	Cycling: Facilities and Infrastructure
(10) 28/3/2018	Public Transit Planning and Operations: Bus Intersection Design and Planning Memo Due
(11) 4/4/2018	Public Transit Planning and Operations: Rail
(12) 11/4/2018	Policy Brief (2) due and presentation

Weekly Reading Assignments

Reading List for URBP 504 Planning for Active Transportation Instructor Ahmed El-Geneidy

Week 2: Active Transportation and Health (24/1/2018)

Dill, J. (2009) Bicycling for Transportation and Health: The Role of Infrastructure. *Journal of Public Health Policy*, 30, S95-S110.

Mueller, N., Rojas-Reuda, D., Cole-Hunter, T., et al. (2015) Health impact assessment of active transportation: A systematic review. *Preventive Medicine*, 76, 103-114.

Sallis, J. F., Spoon, J., Cavill, N., et al. (2015) Co-benefits of designing communities for active living: an exploration of literature. *International Journal of Behavioral Nutrition and Physical Activity*, 12:30.

van Wee, B., & Ettema, D. (2016). Travel behaviour and health: A conceptual model and research agenda. *Journal of Transport & Health*, 3(3), 240-248

Wasfi, R., Ross, N., & El-Geneidy, A. (2013). Achieving recommended daily physical activity levels through commuting by public transportation: Unpacking individual and contextual influences. *Health and Place*, 23, 18-25.

Optional readings

Reynolds, C., Winters, M., Ries, F., & Gouge, B. (2010). *Active transportation in urban areas: Exploring health benefits and risks*: National Collaborating Centre for Environment Health.

NYC Dept. of Mental Health and Hygiene (2014) Neighborhood Walkability and Physical Activity in New York City. Report.
<http://www.nyc.gov/html/doh/downloads/pdf/epi/databrief42.pdf>

Week 3: Emissions, the Environment and Transportation (31/1/2018)

Banister, D., Pucher, J., & Lee-Gosselin, M. (2007). Making sustainable transport politically and publicly acceptable: Lessons from the EU, USA and Canada. In P. Rietveld & R. Stough (Eds.), *Institutions and sustainable transport: Regulatory reform in advanced economies* (pp. 17-50). Cheltenham, England: Edward Elgar Publishing.

Bigazzi, A.Y., & Figliozi, M.A. (2014). Review of urban bicyclists' intake and uptake of traffic-related air pollution. *Transport Reviews*, 34(2), 221-245.

- Carrier, M., Apparicio, P., Seguin, A.M., and Crouse, D. (2014). The application of three methods to measure the statistical association between different social groups and the concentration of air pollutants in Montreal: A case of environmental equity. *Transportation Research Part D: Transport and Environment*, 30, 38-52
- Morabia, A., Amstislavski, P. N., Mirer, F. E., Amstislavski, T. M., Eisl, H., Wolff, M. S., et al. (2009). Air pollution and activity during transportation by car, subway, and walking. *American Journal of Preventive Medicine*, 37(1), 72-77.
- Sider, T., Hatzopoulou, M., Eluru, N., Goulet-Langlois, G., & Manaugh, K. (2015). Smog and socioeconomics: an evaluation of equity in traffic-related air pollution generation and exposure. *Environment and Planning B: Planning and Design*, 42(5), 870-887.
- Stanley, J. K., Hensher, D. A., & Loader, C. (2011). Road transport and climate change: Stepping off the greenhouse gas. *Transportation Research Part A*, 45(10), 1020–1030.

Optional Readings

- Fishman, E., Washington, S., & Haworth, N. (2014). Bike share's impact on car use: evidence from the United States, Great Britain, and Australia. *Transportation Research Part D: Transport and Environment*, 31, 13-20.
- Chapman, L. (2007). Transport and climate change: A review. *Journal of Transport Geography*, 15, 354-367.
- Woodcock, J., Edwards, P., Tonne, C., Armstrong, B. G., Ashiru, O., Banister, D., et al. (2009). Public health benefits of strategies to reduce greenhouse-gas emissions: Urban land transport. *The Lancet*, 374, 1930-1943.

Week 4: Active Transport and Road Safety (7/2/2018)

- Jacobsen, P. (2015). Safety in numbers: More walkers and bicyclists, safer walking and bicycling. *Injury Prevention*, 21, 271-275.
- Parkin, J., Wardman, M., & Page, M. (2007). Models of perceived cycling risk and route acceptability. *Accident Analysis and Prevention*, 39, 364-371.
- Rothmana, L., Buliung, R., Toa, T., Macarthura, C., Macphersonb, A., Howarda, A., (2015) Associations between parents' perception of traffic danger, the built environment and walking to school. *Journal of Transport and Health*, 2(3), 327–335.
- Schepers, P., Hagenzieker, M., Methorst, R., van Wee, B., & Wegman, F. (2014). A conceptual framework for road safety and mobility applied to cycling safety. *Accident Analysis & Prevention*, 62, 331-340.

Wegman, F., Zhang, F., & Dijkstra, A. (2012). How to make more cycling good for road safety. *Accident Analysis and Prevention*, 44, 19-29.

Week 5: Built Environment and Neighborhood Effects on Travel Behaviour (14/2/2018)

Cervero, R., & Kockelman, K. (1997). Travel demand and the 3Ds: Density, diversity, and design. *Transportation Research Part D*, 2(3), 199-219.

Cerin, E., Leslie, E., Du Toit, L., Owen, N., & Frank, L. (2007). Destinations that matter: Associations with walking for transport. *Health & Place*, 13, 713-724.

Ewing, R., & Handy, S. (2009). Measuring the unmeasurable: Urban design qualities related to walkability. *Journal of Urban Design*, 14(1), 65-84.

Herrmann, T., Boisjoly, G., Ross, N. A., & El-Geneidy, A. M. (2017). The missing middle: filling the gap between walkability and observed walking behavior. *Transportation Research Record: Journal of the Transportation Research Board*, (2661), 103-110.

Kamruzzaman, M., Shatu, F.M., Hine, J., & Turrell, G. (2015). Commuting mode choice in transit oriented development: Disentangling the effects of competitive neighbourhoods, travel attitudes, and self-selection. *Transport Policy*, 42, 187-196.

Lee, J., Zengras, C., Ben-Joseph, P., & Park, S. (2014). Does urban living influence baby boomers' travel behavior? *Journal of Transport Geography*, 35, 21-29.

Optional Readings

McNeil, N. (2011). Bikeability and the 20-min Neighborhood. *Transportation Research Record: Journal of the Transportation Research Board*, 2247, 53-63.

Winters, M., Brauer, M., Setton, E. M., & Teschke, K. (2010). Built Environment Influences on Healthy Transportation Choices: Bicycling versus Driving. *Journal of Urban Health*, 87(6), 969-993.

Week 6: Beyond the Built Environment: The Effect of Personal Characteristics on Travel Behaviour (21/2/2018)

De Vos, J., & Witlox, F. (2017). Travel satisfaction revisited. On the pivotal role of travel satisfaction in conceptualising a travel behaviour process. *Transportation Research Part A: Policy and Practice*, 106, 364-373.

- Gase, L.N., Barragan, N.C., Simon, P.A., et al. (2015). Public awareness of and support for infrastructure changes designed to increase walking and biking in Los Angeles County. *Preventive Medicine*, 72, 70-75.
- Grimsrud, M., & El-Geneidy, A. (2014). Transit to eternal youth: Lifecycle and generational trends in Greater Montreal public transport mode share. *Transportation*, 41(1), 1-19.
- Mao Z., Ettema D., & Dijst M. (2016) Commuting trip satisfaction in Beijing: Exploring the influence of multimodal behavior and modal flexibility. *Transportation Research Part A: Policy and Practice*, 94, 592-603.
- Ory, D., & Mokhtarian, P. (2005). When is getting there half the fun? Modeling the liking for travel. *Transportation Research Part A*, 39, 97-123.
- Saelens, B.E., Sallis, J.F., Frank, L.C., et al. (2012). Neighborhood environment and psychosocial correlates of adults' physical activity. *Medicine and Science in Sports and Exercise*, 44(4), 637-646.

Optional Readings

- Handy, S., Xing, Y., & Buehler, T. (2010). Factors associated with bicycle ownership and use: a study of six small U.S. cities. *Transportation*, 37, 967-985.
- Robertson-Wilson, J. E., Leatherdale, S. T., & Wong, S. L. (2008). Social-Ecological correlates of active commuting to School among high school students. *Journal of Adolescent Health*, 42, 486-495.
- Titze, S., Stronegger, W., Janschitz, S., & Oja, P. (2008). Association of built-environment, social-environment and personal factors with bicycling as a mode of transportation among Austrian city dwellers. *Preventative Medicine*, 47, 252-259.

Week 7: Walking and Pedestrianization (28/2/2018)

- Badami, M. (2009). Urban Transport Policy as if People and the Environment Mattered: Pedestrian Accessibility the First Step. *Economic and Political Weekly*, XLIV(33), 43-51.
- Foster, S., Giles-Corti, B., & Knuiman, M. (2014). Does fear of crime discourage walkers? A social-ecological exploration of fear as a deterrent to walking. *Environment and Behavior*, 46(6), 698-717.
- Jacobsen, P. L., Racioppi, F., & Rutter, H. (2009). Who owns the roads? How motorised traffic discourages walking and bicycling. *Injury Prevention*, 15, 369-373.

Sam Schwartz Engineering (2012). Steps to a Walkable Community—A Guide for Citizens, Planners, and Engineers. Land Use, 39-59.
Optional: Benefits of Walking Fact Sheet, 1–9.

Yang, Y. (2015). Interactions between psychological and environmental characteristics and their impacts on walking. *Journal of Transport and Health*, 2(2), 195-198.

Walton, D. & Sunseri S.(2010). Factors Influencing the Decision to Drive or Walk Short Distances to Public Transport Facilities. *International Journal of Sustainable Transportation*, 4(4), 212-226.

Optional readings

Burke, M., & Brown, A. L. (2007). Distances people walk for transport. *Road & Transport Research*, 16(3), 16-29.

Manaugh, K., & El-Geneidy, A. (2013). Does Distance Matter? Exploring the links among values, motivations and satisfaction in walking trips. *Transportation Research Part A: Policy and Practice*, 50, 198-208.

Week 8: Cycling – Policies and Programs (14/3/2018)

Bonham, J., Koth, B. (2010). Universities and the cycling culture. *Transportation Research Part D*, 15, 94–102.

Damant-Sirois, G., *Grimsrud, M., & El-Geneidy, A. (2014). *What's your type: A multidimensional cyclist typology*. Paper to be presented at the 93rd Annual Meeting of the Transportation Research Board, Washington, D.C., USA.

Forsyth, A., & Krizek, K. (2011). Urban Design: Is there a distinctive view from the bicycle? *Journal of Urban Design*, 16(4), 531-549.

Harms, L., Bertolini, L., & Brömmelstroet, M. (2015). Performance of municipal cycling policies in medium-sized cities in the Netherlands since 2000. *Transport Reviews*.

Pucher, J., Buehler, R., & Seinen, M. (2011). Bicycling renaissance in North America? An update and re-appraisal of cycling trends and policies. *Transportation research part A: policy and practice*, 45(6), 451-475.

Optional Readings

Pucher, J., & Buehler, R. (2006). Why Canadians cycle more than Americans: A comparative analysis of bicycling trends and policies. *Transport Policy*, 13, 265-279.

Pucher, J., Dill, J., & Handy, S. L. (2010). Infrastructure, programs, and policies to increase bicycling: An international review. *Preventive Medicine*, 50, S106-S125.

Week 9: Cycling – Facilities and Infrastructure (21/3/2018)

Dill, J., & Carr, T. (2003). Bicycle commuting and facilities in major U.S. cities: If you build them, commuters will use them. *Transportation Research Record* (1828), 116-123.

Eckerson Jr., C. (2014). *Streetfilms – Journey Around Copenhagen’s Latest Bicycle Innovations!* <http://www.streetfilms.org/journey-around-copenhagens-latest-bicycle-innovations/#more-329805>, accessed 27 July 2015. (video)

Ma, L., Dill, J., & Mohr, C. (2014). The objective versus the perceived environment: what matters for bicycling? *Transportation*, 1-18. doi: 10.1007/s11116-014-9520-y

Murphy, E. & Usher, J. (2015). The role of bicycle-sharing in the city: Analysis of the Irish experience. *International Journal of Sustainable Transportation*, 9(2), 116-125.

NYC Department of Transportation. (2013). *Street Design Manual* (2nd edition). Chapter 2 – Geometry and 2.1.1 Bike Lane & Path 47-59.

Vijayakumar, N., & Burda, C. (2015). *Cycle Cities: Supporting cycling in Canadian cities*. Calgary, Canada: Pembina Institute.

Optional Readings

Larsen, J., Patterson, Z., & El-Geneidy, A. (2013). Build it. But where? The use of geographic information systems in identifying locations for new cycling infrastructure. *International Journal of Sustainable Transportation*, 7(4), 299-317.

Week 10: Transit – Bus (28/3/2018)

Day, K., Loh, L., Ruff, R., Rosenblum, R., Fischer, S., & Lee, K. (2014). Does bus rapid transit promote walking? An examination of New York City’s select bus service. *Journal of Physical Activity and Health*, 11, 1512-1516.

El-Geneidy, A., van Lierop, D., Grisé, E., Boisjoly, G., Swallow, D., Fordham, L., & Herrmann, T. (2017). Get on board: Assessing an all-door boarding pilot project in Montreal, Canada. *Transportation Research Part A: Policy and Practice*, 99, 114-124.

- Krizek, K. and E. Stonebraker (2010). Bicycling and transit: A marriage unrealized. *Transportation Research Record: Journal of the Transportation Research Board*, (2144), 161-167.
- Levinson, H. (2001). Bus transit in the 21st century some perspectives and prospects. *Transportation Research Record: Journal of the Transportation Research Board*, (1760), 42-46.
- Mamun, S., & Lownes, N (2014). Access and connectivity trade-offs in transit stop location. *Transportation Research Record: Journal of the Transportation Research Board*, (2466), 1-11.

Optional Readings

- Surprenant-Legault, J., & El-Geneidy, A. (2011). Introduction of a reserved bus lane: Impact on bus running time and on-time performance. *Transportation Research Record*, (2218), 10-18.

Week 11: Transit – Rail (4/4/2018)

- Agrawal, A. Schlossberg, M., & Irvin, K. (2008). How far, by which route and why? A spatial analysis of pedestrian preference. *Journal of Urban Design*, 13(1), 81-98.
- Brown, B. B., Werner, C. M., Tribby, C. P., Miller, H. J., & Smith, K. R. (2015). Transit use, physical activity, and body mass index changes: objective measures associated with complete street light-rail construction. *American journal of public health*, 105(7), 1468-1474.
- Hochmair, H. (2015). Assessment of bicycle service areas around transit stations. *International Journal of Sustainable Transportation*, 9 (1), 15-29.
- Kuby, M., Barranda, A., & Upchurch., C. (2004). Factors influencing light rail station boardings in the United States. *Transportation Research Part A*, 38, 223-247.
- Lewis-Workman, S., & Brod, D. (1997). Measuring the neighborhood benefits of rail transit accessibility. *Transportation Research Record* (1576), 147-153.

Optional Readings

- Brown, B., & Werner, C. (2009). Before and after a new light rail stop: Resident attitudes, travel behavior and Obesity. *Journal of the American Medical Association*, 75(1), 5-12.