Assessing the Potential of Bike Share Networks and Active Transportation to Improve Urban Mobility, Physical Activity, and Public Health Outcomes in South Carolina

Technology Transfer Activities

by

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Technology Transfer Activities

1 Outputs

The following outputs highlight the dissemination and scholarly contributions resulting from the project, including peer-reviewed publications, national and international conference presentations, and direct engagement with municipal stakeholders.

1.1 Output #1

Publication titled 'A Multi-Method Study of Patterns and Motivations of Greenway-based Physical Activity' was published. Dr. Morgan Hughey is the lead author and Drs. Dan Bornstein, Kweku Brown, Jeff Davis, and Andrew Kaczynski are co-authors.

Citation: Hughey, S.M., Stowe, E.W., Trello, S.K., Bornstein, D., Brown, K., Davis, W.J., Kaczynski, A.T. A Multi-Method Study of Patterns and Motivations of Greenway-based Physical Activity. Translational Journal of the American College of Sports Medicine, Vol. 6(1), pp. 1-8, 2021, DOI: 10.1249/TJX.00000000000142, ISSN Print: 2379-2868.

1.2 Output #2

Dr. Michalaka presented the C2M2 project "Assessing potential of bike share networks and active transportation to improve urban mobility, physical activity and public health outcomes in SC" at the 3rd Annual C2M2 Conference in Clemson, SC in October 2019.

1.3 Output #3

Dr. Morgan Hughey of the College of Charleston delivered a presentation titled "Quantifying Physical Activity Levels and Patterns for the Bike Share System in Charleston, SC in 2018." This presentation was shared at the Active Living Conference held in Orlando, Florida in February 2020.

1.4 Output #4

Drs. Brown, Davis, and Michalaka from the Department of Civil and Environmental Engineering at The Citadel; Dr. Bornstein from the Department of Health and Human Performance at The Citadel; Dr. Hughey from the College of Charleston; and Drs. Huynh and Kaczynski from the University of South Carolina met with the City of Charleston Health and Wellness Advisory Committee on October 7, 2020 to discuss the research findings.

1.5 Output #5

On October 16, 2020, the same research team presented their bike share and active transportation research to two City of Charleston committees: the Traffic & Transportation Committee and the Planning, Preservation & Sustainability Committee.

1.6 Output #6

Dr. Michalaka presented "Assessing Potential of Bike Share Networks and Active Transportation to Improve Urban Mobility, Physical Activity and Public Health Outcomes" at the 7th Annual International Conference on Transportation/ 11th Annual International Conference on Urban Studies & Planning in Athens, Greece, May 31, 2021.

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1.7 Output #7

Dr. Brown presented "Assessing Potential of Bike Share Networks and Active Transportation to Improve Urban Mobility, Physical Activity and Public Health Outcomes in South Carolina" at the brand new C2M2 Cyber-Physical Systems (CPS) Frontiers Series, which showcase former and current C2M2 doctoral students as well as early career faculty researchers who have worked on C2M2 funded projects on June 18, 2021. Webinar available at: https://www.youtube.com/watch?v=7_9KRul4hZM

2 Outcomes

The following outcomes illustrate the project's ongoing impact through the formation of strategic research collaborations and the wide dissemination of findings to professional, academic, and community audiences.

2.1 Outcome #1

Several collaborations with teams across SC and beyond were formed to further analyze the bike share data from the "Assessing Potential of Bike Share Networks and Active Transportation to Improve Urban Mobility, Physical Activity and Public Health Outcomes in South Carolina" project.

2.2 Outcome #2

Project findings were disseminated in national forums connecting with transportation engineers, city planning officials, interested communities and stakeholders through technology transfer including: Active Living Research, American Public Health Association, Transportation Research Board, American Planning Association, municipal government organizations, bicycle and pedestrian advocacy organizations, TNC/MSP's, and others.

3 Impacts

The following impacts highlight how the project's research and outreach efforts have informed local policy, advanced community well-being, and supported data-driven improvements in transportation and public health.

3.1 Impact #1

On October 7 and October 16, 2020, a multidisciplinary research team including Drs. Brown, Davis, and Michalaka from The Citadel's Department of Civil and Environmental Engineering; Dr. Bornstein from The Citadel's Department of Health and Human Performance; Dr. Hughey from the College of Charleston; and Drs. Huynh and Kaczynski from the University of South Carolina shared their findings on bike share systems and active transportation with key stakeholders in the City of Charleston. The team engaged the City's Health and Wellness Advisory Committee, highlighting the potential of active transportation to enhance public health, equity, and mobility. They then presented to the Traffic & Transportation Committee and the Planning, Preservation & Sustainability Committee, offering data-driven recommendations aimed at improving transportation system operations, and increasing transportation safety for bicyclists. This research is contributing to ongoing efforts to enhance urban mobility, public health, and transportation safety through evidence-based planning and decision-making.