

**Carbon Neutral Cities Alliance Innovation Fund
Grant Agreement**

December 15, 2015

Michael Armstrong
Senior Sustainability Manager, Bureau of Planning and Sustainability
City of Portland, OR

Dear Michael:

The Urban Sustainability Directors Network (USDN), a project of Global Philanthropy Partnership (GPP), is pleased to provide a Carbon Neutral Cities Alliance (CNCA) Innovation Fund grant for \$56,250 to the City of Portland (or "Grantee") to implement the "Deep Carbon Reductions in the Transport Sector: Impacts on Affordability and Displacement" project, which aims to address issues of displacement and gentrification through research and policy development, using Portland as a test case. This project is funded by a generous grant from the Bullitt Foundation. (Grant Agreement between GPP/USDN and the Bullitt Foundation is attached as Appendix A).

Project Title

Deep Carbon Reductions in the Transport Sector: Impacts on Affordability and Displacement

Grant Amount

\$56,250

Lead City and Primary Contact

Lead City: Portland, OR

Project Lead: Michael Armstrong, Senior Sustainability Manager, Bureau of Planning and Sustainability, City of Portland, 503-823-6053,
michael.armstrong@portlandoregon.gov,

Project Manager (if different from Project Lead): N/A

The Grantee will notify the CNCA Director of any anticipated staff changes to Project Lead and/or Project Manager, with as much advance notice as possible.

Other Participating Cities:

- Seattle, WA
- Vancouver, Canada

Other Implementing Partners: Portland State University

Project Term

January 1, 2016 – August 31, 2016 (8 months)

Project Scope, Deliverables and Timeline

The Project Scope is described in the Project Proposal (Appendix B). Project deliverables and timeline/due dates are as follows:

	Activity	Deliverable	Due Date
1	Build upon the citywide assessment of household vulnerability to understand the potential housing mismatch in the corridor, focusing on census tracts with a three or more vulnerability characteristics based on the citywide analysis. Document the specific characteristics of households by geography within the Powell-Division corridor.	Household Vulnerability Gentrification and Displacement Risk Analysis	January 31, 2016
2	Apply the Housing Field Study recently completed by Portland for the Powell-Division potential major station areas to identify properties that may be likely candidates for redevelopment by the private sector; this analysis will also consider improvement to land value, construction costs, real estate trends, and other relevant data. This assessment will be provided to Portland State University to aid in the development of the model identified in Task 5.	Housing Field Study Assessment	January 31, 2016
3	Complete an economic meta-analysis of existing case studies of property values and of the conversion effects of high-capacity transit investments. Assess the types of housing associated with bus rapid transit station area development.	Meta-analysis of Conversion Effects of High Capacity Transit and Assessment of Transit Proximity on Housing Cost and Type	March 31, 2016
4	Interview property owners and managers of rental housing (duplex through multi-family) in and near major station opportunity areas to understand their perspectives about the potential impact of the bus rapid transit investment and learn about their short and long-term plans for their properties to understand the future of rental housing in the corridor.	Property Owner/Property Manager Survey	May 31, 2016
5	Using the results of Tasks 2-4, design and perform a simple and replicable model to analyze which households/household types are more likely to be displaced from the corridor, to which census tracts displaced households are likely to move, and the likelihood of those displaced households to use transit to commute or to meet other daily transportation needs.	Model Potential Movement of Vulnerable Households	July 31, 2016
6	Using the research and results of Task 5, assess the likely change in carbon emissions based on changes to modeled daily transportation mode	Model Carbon Emissions Associated with Household Movement	August 31, 2016

	patterns.		
7	Produce clear methodology for a replicable linked model of transit, housing, displacement, and carbon impacts to enable similar analysis in other cities. Share with CNCA, C40, and USDN cities, and seek opportunities to present the approach and findings at workshops, conferences, and meetings. Present findings in detail to counterparts in Seattle and Vancouver.	Disseminate Methodology	August 31, 2016

Failure to provide the above Deliverables by the listed due dates may result in a delay of future payments. In such circumstances, the Grantee will provide a written explanation of delays, and work with the CNCA Director to agree to new deadlines. Severe delays may result in cancellation of future payments.

Payment Schedule

60% (\$33,750)	Upon signing of this grant agreement
40% (\$22,500)	Upon satisfactory receipt of all Deliverables and Reporting Requirements (see below)

Reporting Requirements

As lead grantee, the City of Portland agrees to meet the following Reporting Requirements:

1. Quarterly Updates – A quarterly one-paragraph (250 words or less) progress update describing progress to date on deliverables, due one week after the end of each quarter.
2. CNCA Webinar/Conference Call on Project Results/Lessons Learned – The Grantee may be asked to present on a CNCA teleconference or webinar or at an in-person meeting about project results, lessons learned, key takeaways, etc.
3. Final Report – The Grantee will submit to the CNCA Director a Final Report consisting of the following components, as required by the Bullitt Foundation, by August 25, 2016:
 - Grant Report Narrative:
 - Describe the most significant accomplishment your organization has achieved in the past year. We are not looking for a list of activities, but rather a thoughtful description of how your organization achieved its mission or made the world measurably better. This paragraph is the most important part of the final report and will be read by the Foundation's Board of Trustees.
 - Describe lessons learned. The Foundation is interested in lessons drawn from successes and failures alike. What strategies worked that might be replicated elsewhere? What approaches fell short of expectations, and why?
 - For each of the "anticipated outcomes" you identified when applying for the grant, describe the most notable successes, failures, and unanticipated consequences you experienced.
 - Grant Budget and Expenditures – A detailed record of grant funds budgeted and expended, using the Final Report Budget Template (Appendix C).

Reporting Deadlines:

Quarterly Updates	Q1: April 7, 2016 Q2: July 7, 2016
CNCA Webinar/Conference Call on Project Results/Lessons Learned	As needed
Final Report	August 25, 2016

Budget

A detailed grant budget is provided as Appendix C. Any variation over 10% of the budgeted amount in any particular line item requires prior written (email) approval from the CNCA Director.¹ As described in the Reporting Requirements section above, at the conclusion of the grant period, the Grantee will provide a budget statement of actual versus projected expenditures.

Intellectual Property Rights

Intellectual property created, made, or originated from this grant project by the Grantee or its subcontractors or partners shall be jointly owned by CNCA/USDN/GPP, and finished products/deliverables may be shared publicly by CNCA/USDN/GPP.

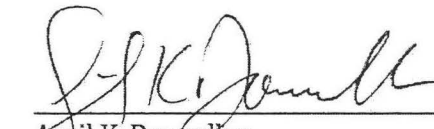
Additional Terms:

- Grant funds cannot be used for lobbying.
- Grant funds must be expended per the proposed budget. As described above, variances above 10% for any particular line item require written permission from the CNCA Director.
- The project must be a collaboration with the cities described in the "Lead and Participating Cities" section above.
- The grant products described above will be delivered by August 31, 2016.
- The City of Portland will accept full responsibility of project management, coordination and reporting.
- Michael Armstrong will be the primary contact.

¹ For example, if the Grantee had budgeted \$10,000 for salaries, and six months into project implementation finds that salary expenditures will be closer to \$12,000, the Grantee must seek prior approval from the CNCA Director.

If you agree with the terms and conditions of this grant agreement, please sign below, complete the attached "Instructions for Payment" form, and email both to CNCA Director Johanna Partin at johannapartin@usdn.org.

By signing below, the City of Portland, OR accepts the terms and conditions of this grant agreement.

	<u>1/21/16</u>		
April K. Donnellan	Date	Charlie Hales	Date
Executive Director		Mayor	
Global Philanthropy Partnership		City of Portland	

cc: Johanna Partin, Director, Carbon Neutral Cities Alliance, USDN
Nils Moe, Managing Director, USDN

Instructions for Payment

Make check payable to:

Mailing Address:

Tax ID Number:

- OR -

Bank Transfer information:

Appendix A. Grant Agreement Between BPP/USDN and Bullitt Foundation

Appendix B. Project Proposal

Title: Deep Carbon Reductions in the Transport Sector: Impacts on Affordability and Displacement

1. Project Description

Leading cities around the world—including the 17 founding members of the Carbon Neutral Cities Alliance (CNCA)—are investing in growing and enhancing public transit (along with biking and walking) as a key strategy to reduce carbon and maintain affordability. Many of these cities are also struggling with skyrocketing housing prices, affordability and displacement, which has damaging social impacts and may also offset the carbon benefits of public transit improvements.

The proposed “Deep Carbon Reductions in the Transport Sector: Impacts on Affordability and Displacement” project seeks to answer the question of whether it’s possible to decarbonize urban transportation without negatively impacting affordability and displacement by examining:

- To what extent expanding transit service (BRT, light rail, frequent bus service) and creating walkable neighborhood centers causes housing prices to rise.
- What benefits and costs accrue to existing households in areas where transit service is expanding.
- Quantifying the net change in carbon emissions associated with transit improvements across a range of displacement scenarios.

The proposed project will do so through two main activities:

1. Supporting Cascadia Cities’ Participation in the CNCA
2. Conducting a Transit and Affordability Study in Portland

These activities are described below.

Activity 1: Support Cascadia Cities’ Participation in the CNCA

The Carbon Neutral Cities Alliance (CNCA or “the Alliance”) is a collaboration of global cities committed to reducing greenhouse gas (GHG) emissions by at least 80% by 2050 or sooner—the most ambitious GHG emission reduction targets undertaken by any cities across the globe. The Alliance was created to support leading global cities in achieving carbon neutrality by 2050 by focusing on “transformational change.”

The focus on transformational change stems from the recognition that while it will be possible to achieve many of cities’ interim carbon reduction targets through incremental improvement of existing systems, achieving an 80% or greater GHG reduction by 2050

will require a fundamental, transformational redesign of core urban systems—land use, transportation, energy supply and distribution, building energy management, industrial energy use, water, waste—and the development of new technologies.

The Alliance's founding cities are:

Berlin, Germany	Minneapolis, MN, USA	Stockholm, Sweden
Boston, MA, USA	New York City, NY, USA	Sydney, Australia
Boulder, CO, USA	Oslo, Norway	Vancouver, Canada
Copenhagen, Denmark	Portland, OR, USA	Washington DC, USA
London, United Kingdom	San Francisco, CA, USA	Yokohama, Japan
Melbourne, Australia	Seattle, WA, USA	

Their priorities for collaboration through the Alliance include:

- Creating a shared vision of Carbon Neutral Cities;
- Collaborating to tackle difficult de-carbonization challenges;
- Making carbon neutral planning easier and smarter;
- Developing transformational leadership skills and strategies; and
- Building collective strength and communicating with one voice to achieve greater impact.

The Alliance's background, purpose and activities are described in greater detail in Supplemental Attachment 1.

The Alliance has prioritized not charging a fee to member cities for their participation. These cities' participation is supported through philanthropic funding. CNCA requests \$15,000 from the Bullitt Foundation to cover part of the Alliance's costs of CNCA's three Cascadian cities (Vancouver, Seattle and Portland). This funding would partially support the CNCA Director's time and to offset travel costs for these three cities to attend CNCA's 2016 Annual Meeting (date and location TBD).

Activity 2: Portland Transit and Affordability Study: Assess the impacts of decarbonizing urban transportation on housing affordability, displacement and carbon emissions in a specific transit corridor in Portland.

On behalf of the CNCA, the City of Portland will analyze the relationship among high-capacity transit investments, housing affordability and carbon reduction. Using the Powell-Division Transit and Development Project in Portland as a case study, this initiative will ask: Is it possible to build high-capacity transit and reduce carbon emissions without gentrification and involuntary displacement? To what extent is the high-capacity transit investment likely to affect housing affordability? How does avoiding displacement affect the net carbon impacts of the transit investment?

The City of Portland recently adopted its 2015 Climate Action Plan, building on two decades of climate action that have achieved notable results: As of 2013, local carbon emissions had declined 35% per person since 1990, and total emissions were 14% below

1990 levels. At the same time, the City is a member of a Portland-area coalition that is actively planning a new bus rapid transit line that will serve many low-income households and communities of color in East and Southeast Portland.

The Powell-Division Transit and Development Project is a regional collaborative effort to develop Portland's first bus rapid transit line. The Powell-Division Project will meet current and future transit needs in an active and busy transportation corridor. The corridor includes two large community college campuses, multiple high school campuses, and connections to all north-south bus lines on the east side of Portland. It is home to a diverse population, many of whom are dependent on transit. Today, the two bus lines that serve the corridor are among the busiest in the region. They are often so crowded during peak commute hours that buses need to pass by riders at many points along the lines.

Although the need for improved transit in East Portland is well documented and the project is broadly supported, there are significant concerns that this project will exacerbate declining housing affordability close to the Central City and push gentrification pressures east toward areas with concentrations of vulnerable households.

This project will analyze those assumptions. It will examine the level and character of vulnerability in the corridor in detail—expanding and deepening citywide research on household vulnerability to displacement. This activity will analyze the extent to which the transit investment is likely to affect housing affordability; model potential household movement based on household vulnerability characteristics, housing needs and housing availability; assess the carbon impacts of modeled household movement in the region; lay the groundwork for targeted mitigation measures; and establish the basis for a long-term study to understand the impacts of high-capacity transit investments on both affordability and carbon emissions.

Why is this initiative significant? Transportation of goods and people accounts for 40 percent of Multnomah County carbon emissions. Nationally, the World Resources Institute estimates that half of all transportation emissions are from urban transportation. To achieve the 2050 goal of reducing local carbon emissions by 80 percent below 1990 levels, significant transportation-related reductions must be achieved through coordinated land use policies and the development of infrastructure for low-carbon transportation. Providing high-capacity transit service that efficiently and effectively connects people to the places they need to go—work, school, daily errands—is critical to meeting carbon reduction goals.

Cities and regions must be able to provide public high-capacity transit to serve all communities, particularly low-income populations. To ensure that all communities are well-served and that households irrespective of income are able to choose low-carbon transportation, it is essential to understand the dynamics that most influence housing affordability, and to what extent transit infrastructure projects drive housing costs. Better understanding of the forces that influence housing affordability will help cities make decisions to boost equitable carbon neutrality.

The City of Portland is currently in the process of developing a community development action plan for the Powell-Division corridor. While upward pressures on housing affordability and the risk of gentrification and displacement are already documented concerns along parts of the proposed transit alignment, little is known about the extent to which this project will influence housing affordability. Understanding the likely impacts on housing costs and the related likelihood of displacement, the geography of any potential displacement, and the potential landing zones for modeled involuntary displacement will help the City of Portland craft a community stabilization strategy that will provide improved transit service while meeting equity and carbon goals.

This analysis will be developed and documented to serve as a replicable model for conducting similar analysis in CNCA and other cities. The analysis will use readily accessible data, and the modeling of potential movement will be developed using simple methodologies and programs that are in common use and generally affordable to public agencies.

Anticipated Outcomes

1. Cascadian cities' active engagement in Carbon Neutral Cities Alliance in 2016.
2. Portland strategy to minimize displacement and maximize carbon reduction resulting from high-capacity public transportation investment in the City of Portland, starting with the Powell-Division corridor.
3. Use of the transit/affordability/carbon model to advance public policy discussions and enable pro-equity, low-carbon transportation investments in CNCA and other cities around the world.

How Short-term Objectives Relate to Longer-term Goal

- **Activity 1:** Enabling Cascadian cities' engagement in Carbon Neutral Cities Alliance in 2016 will contribute to the following long-term goals:
 - Strengthen their abilities to develop, test, implement and amplify deep carbon reduction strategies.
 - Increase city-to-city collaboration to advance urban carbon neutrality goals locally and globally.
 - Contribute to their positioning as thought leaders and "go to" sources for carbon neutrality worldwide.
 - Begin fostering a "next wave" of cities formally adopting carbon neutrality goals elsewhere in the Pacific Northwest and beyond.
- **Activity 2:** Assessing how Portland's investments in high-capacity transit can decarbonize urban transportation while minimizing displacement, and developing a replicable model for conducting similar analysis in CNCA and other cities around the world will contribute to the following long-term goals:
 - Extensive public transit is a fundamental component of virtually all credible city plans to achieve long-term deep carbon reductions. Transit is also a powerful tool for affordability, with recent analyses suggesting households save \$1,000 each month by shifting from vehicle ownership to transit as a primary mode of transportation. It is imperative, therefore, that

cities develop mechanisms to maintain the affordability of housing near transit and to understand the consequences of displacing transit-dependent households.

Measuring and Evaluating Success

Success will be measured using the following criteria:

- Activity 1:
 - Cascadian member cities' meaningful participation in CNCA activities and annual meeting in 2016
- Activity 2:
 - The implementation of measures in Portland to mitigate displacement in the Powell-Division corridor and the establishment of citywide policies based on the analysis and lessons learned from this project. (In the long run, the critical measure of success is the number of households displaced once the BRT system is operational.)
 - The use of the transit/affordability/carbon model by other cities.

Relevance to the Foundation's Stated Priorities and Objectives

This project addresses the Bullitt Foundation's commitment to safeguarding natural ecosystems while accommodating a sustainable human population in healthy, vibrant, equitable, and prosperous communities in the following ways:

- It supports a network of "visionary" cities—including Vancouver, Seattle and Portland—that are tackling the difficult challenge of deep carbon reductions that cities around the world must achieve to avoid catastrophic ecosystem disruptions and human impacts.
- It seeks to demonstrate the transformative nature of the "80x50" challenge and how it requires order of magnitude reductions in emissions across multiple systems that can only be accomplished by holistic thinking and systemic changes.
- It develops the knowledge base around a particularly challenging issue for cities seeking to completely decarbonize urban infrastructure and services: the perceived trade-off between transit-oriented development and the displacement of poor communities whose housing prices are rising as a result.
- It builds on Pacific-Northwest cities' leadership in deep de-carbonization and equity.



2. Work Plan and Timetable

Task	Description	Time Period
Activity 1: Support Cascadia Cities' Participation in the CNCA		
Task 1.1	Include Cascadia member cities in all relevant CNCA activities in 2016 (activities described in Supplemental Attachment 1).	Throughout 2016
Task 1.2	Include Cascadia member cities in CNCA's 2016 annual meeting (exact date and location TBD).	sometime between April-June 2016
Activity 2: Portland Transit and Affordability Study: Can urban transportation decarbonize without reducing affordability and increasing displacement in Portland?		
Task 2.1	Household Vulnerability Gentrification and Displacement Risk Analysis Build upon the citywide assessment of household vulnerability to understand the potential housing mismatch in the corridor, focusing on census tracts with a three or more vulnerability characteristics based on the citywide analysis. Document the specific characteristics of households by geography within the Powell-Division corridor. <i>Lead: Dr. Lisa Bates, Assistant Professor, Portland State University</i>	September 2015 – January 2016
Task 2.2	Housing Field Study Assessment Apply the Housing Field Study recently completed by Portland for the Powell-Division potential major station areas to identify properties that may be likely candidates for redevelopment by the private sector; this analysis will also consider improvement to land value, construction costs, real estate trends, and other relevant data. This assessment will be provided to Portland State University to aid in the development of the model identified in Task 2.5. <i>Lead: Radcliffe Dacanay, Management Analyst, City of Portland</i>	September 2015 – January 2016
Task 2.3	Meta-analysis of Conversion Effects of High Capacity Transit and Assessment of Transit Proximity on Housing Cost and Type Complete an economic meta-analysis of existing case studies of property values and of the conversion effects of high-capacity transit investments. Assess the types of housing associated with bus rapid transit station area development. <i>Lead: Dr. Lisa K. Bates, Assistant Professor, Portland State University</i>	October 2015 – March 2016
Task 2.4	Property Owner/Property Manager Survey Interview property owners and managers of rental housing (duplex through multi-family) in and near major station opportunity areas to understand their perspectives about the potential impact of the bus rapid transit investment and learn about their short and long-term plans for their properties to understand the future of rental housing in the corridor. <i>Lead: Dr. Lisa K. Bates, Assistant Professor, Portland State University</i>	February 2016 – May 2016
Task 2.5	Model Potential Movement of Vulnerable Households Using the results of Tasks 2.2 – 2.4, design and perform a simple and replicable model to analyze which households/household types are more likely to be displaced from the corridor, to which census tracts displaced households are likely to move, and the likelihood of those displaced households to use transit to commute or to meet other daily transportation needs. <i>Lead: Dr. Lisa K. Bates, Assistant Professor, Portland State University</i>	April 2016 – July 2016
Task 2.6	Model Carbon Emissions Associated with Household Movement Using the research and results of Task 2.5, assess the likely change in carbon emissions based on changes to modeled daily transportation mode patterns. <i>Lead: Consultant to be selected through competitive process</i>	March 2016 – September 2016
Task 2.7	Disseminate Methodology Produce clear methodology for a replicable linked model of transit, housing, displacement, and carbon impacts to enable similar analysis in other cities. Share with CNCA, C40, and USDN cities, and seek opportunities to present the approach and findings at workshops, conferences, and meetings. Present findings in detail to counterparts in Seattle and Vancouver. <i>Lead: Project team; for contact with other cities, Michael Armstrong, City of Portland</i>	Final documentation complete September 2016

3. Detailed Budget

A detailed project budget is attached as Supplemental Attachment #2.

City of Portland

"Deep Carbon Reductions in the Transport Sector: Impacts on Affordability and Displacement" Project Budget

Activity	Expenditures	Income			Notes
		USDN/CNCA	Sought from other sources	Total Income	
Salaries (incl. benefits & payroll taxes)	\$29,000	\$7,500	\$21,500	\$29,000	0.2 FTE among Portland BPS staff. \$21,500 in funding already committed from City of Portland.
Portland State University intergovernmental agreement	\$66,500	\$20,000	\$46,500	\$66,500	\$46,500 is anticipated from Metro, Portland's regional government
Consultant for Task 2.6 (carbon modeling)	\$25,000	\$25,000	\$0	\$25,000	
Design and printing of materials	\$1,250	\$1,250	\$0	\$1,250	
Travel and workshop expenses for convening of Seattle, Vancouver, Portland	\$2,500	\$2,500	\$0	\$2,500	
TOTAL	\$124,250	\$56,250	\$68,000	\$124,250	

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