



# City of Cincinnati

801 Plum Street  
Cincinnati, OH 45202

## Agenda - Final-revised

### Climate, Environment & Infrastructure

*Chairperson, Meeka Owens*  
*Vice Chairperson, Mark Jeffreys*  
*Councilmember, Jeff Cramerding*  
*Vice Mayor, Jan-Michele Kearney*

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Tuesday, December 20, 2022

10:00 AM

Council Chambers, Room 300

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### PRESENTATIONS

#### Human Services Updates

**Virginia Tallent, Asst City Manager**

**Pastor John & Ms Nolan, Shelterhouse**

#### Surface Parking Lot Report

**Oliver Kroner, Director of the Office of Environment & Sustainability**

### AGENDA

1. [202202260](#) **MOTION**, submitted by Councilmembers Owens and Jeffreys, **WE MOVE** that, as the Administration applies for grants and funds being distributed as part of the Infrastructure Investment & Jobs Act (IIJA) and the Inflation Reduction Act (IRA), it applies the following policy guidelines and priorities: 1. Grant applications should prioritize infrastructure improvements that promote connectivity and equity, create green infrastructure, and/or maximize climate mitigation. 2. The City's grant applications should also seek out funding for workforce development in preparation for projects that will be coming, in fields such as welding, electric work, carpentry, and other career paths that are expected to expand with the new available funding. 3. Engage with Metro regarding the Reinventing Metro introduction of Bus Rapid Transit to the region, while ensuring that the needs of the community are met. 4. The City should pursue grants to support the maintenance, operation, and planning of the streetcar. 5. Promotion of green programs, particularly green transit such as bicycles, buses, and electric vehicles. Cincinnatians should be able to access multimodal transit and access other areas of the City without having to drive a car. **WE FURTHER MOVE** that the Administration integrate the principles of Justice40 and climate equity into City strategy when applying for all federal and state funding for infrastructure projects, even those that are not through the IIJA and IRA. (BALANCE ON FILE IN THE CLERK'S OFFICE) (STATEMENT ATTACHED)

**Sponsors:** Owens and Jeffreys

**Attachments:** [Motion](#)

2. [202202205](#) **REPORT**, dated 12/14/2022, submitted Sheryl M. M. Long, City Manager, regarding the environmental impacts of surface parking lots. (See Doc. #202201801)

**Sponsors:** City Manager

**Attachments:** [Report](#)

ADJOURNMENT



**Meeka D. Owens**  
Cincinnati City Council

December 13, 2022

## **MOTION**

### *Direction to City Administration for Infrastructure Grant Applications*

**WE MOVE** that, as the Administration applies for grants and funds being distributed as part of the Infrastructure Investment & Jobs Act (IIJA) and the Inflation Reduction Act (IRA), it applies the following policy guidelines and priorities:

1. Grant applications should prioritize infrastructure improvements that promote connectivity and equity, create green infrastructure, and/or maximize climate mitigation.
2. The City's grant applications should also seek out funding for workforce development in preparation for projects that will be coming, in fields such as welding, electric work, carpentry, and other career paths that are expected to expand with the new available funding.
3. Engage with Metro regarding the Reinventing Metro introduction of Bus Rapid Transit to the region, while ensuring that the needs of the community are met.
4. The City should pursue grants to support the maintenance, operation, and planning of the streetcar.
5. Promotion of green programs, particularly green transit such as bicycles, buses, and electric vehicles. Cincinnatians should be able to access multimodal transit and access other areas of the City without having to drive a car.

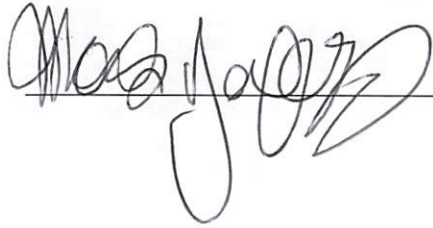
**WE FURTHER MOVE** that the Administration integrate the principles of Justice40 and climate equity into City strategy when applying for all federal and state funding for infrastructure projects, even those that are not through the IIJA and IRA. The City should inform its decisionmaking by using resources such as the federal Climate and Economic Justice Screening Tool and Cincinnati Climate Equity Indicators Report 2021. Grant applications should particularly focus on projects in communities that are marginalized, underserved, and overburdened by pollution and the effects of climate change.

Here, "underserved communities" should meet the definition of grant applications with a Justice40 element, or in the alternative where no definition is applied, it should refer to populations sharing a particular characteristic, as well as geographic communities, that have been systemically denied a full opportunity to participate in aspects of economic, social, and civil life, exemplified by Black, Latino, Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer

(LGBTQ+) persons; persons with disabilities; and persons otherwise adversely affected by persistent poverty or inequality.

**WE FURTHER MOVE** that the Administration provide a report within ninety (90) days to outline strategies for achieving these goals and maximizing the City’s outcomes from the IIJA and IRA. This report should also consider whether additional staff or contractor(s) are needed to help the City maximize its grant applications and recommend potential sources of funding for any additional staff.

  
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*Councilmember Meeka D. Owens*

  
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**STATEMENT**

In the last year and a half, the Federal government has passed landmark legislation that will transform the scope of infrastructure and climate in the United States. The Inflation Reduction Act (IRA) and the Infrastructure Investment & Jobs Act (IIJA) together allocate hundreds of millions of dollars over the next ten years. These funds are directed towards projects spanning from roadways and bridges to bike lanes and emission-reducing home improvements.

The Biden Administration has also released Executive Order 14008, establishing the Justice40 Initiative and committing 40 percent of these funds towards environmental justice and racial equity. This investment will help confront decades of underinvestment in disadvantaged communities, and bring critical resources to communities that have been overburdened by legacy pollution and environmental hazards.

Leaders in Cincinnati are working collaboratively and thinking boldly about what we can achieve in our region. Already, \$127 million has been committed to replace the Western Hills Viaduct and the City has received a \$20 million grant from the Rebuilding American Infrastructure with Sustainability & Equity (RAISE) program. The RAISE grant will promote pedestrian safety and help the environment while connecting residents in the West End, Queensgate, and Lower Price Hill to the job hubs in Over-the-Rhine and the Central Business District.

As the Federal government releases more funding opportunities, it is important that Cincinnati's applications maintain a strategic alignment with the Council and Mayor's priorities for the future of our City. This motion seeks to outline those priorities for the Administration and public so we can build a better Cincinnati together.

December 14, 2022

To: Mayor and Members of City Council

From: Sheryl M.M. Long, City Manager

**202202205**

Subject: Environmental Impacts of Surface Parking Lots

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### **Reference Document #202201801**

The City Council, at its session on September 21, 2022, referred to the following item for review and report:

MOTION, submitted by Councilmembers Jeffreys and Owens, WE MOVE that, the Administration report back to Council within sixty (60) days on the environmental impacts of surface parking lots, which may include but is not limited to; their relation to urban heat islands, stormwater management, materials/construction, and vehicle emissions. Administration may consider soliciting feedback from the Office of Environment and Sustainability, Greater Cincinnati Water Works, the Department of Transportation and Engineering, and any other agency with relevant expertise

#### **Summary**

Surface parking lots can create a variety of environmental impacts including effects to (1) stormwater management, (2) increased urban heat island effect, (3) increased air pollution, and (4) enabling automobile-oriented lifestyle choices. The paved materials used for surface parking lots are generally comprised of black asphalt which is a high-contrast impermeable surface shown to decompose into complex mixtures of organic compounds when exposed to extreme heat and solar radiation.<sup>1</sup> These paved areas are a contrast to permeable surfaces such as gravel lots, greenspaces, or forested areas.

#### **I. Stormwater Runoff**

The impermeable materials of surface parking lots prevent permeation of water into the soil and groundwater supply during rain events. This can cause an overwhelming amount of water to collect on streets, streams, and ultimately enter the combined sewer leading to damaging floods and combined sewer overflows.<sup>2</sup> The high volume and velocity of water on these impermeable surfaces can also contribute to overland flooding, soil erosion, and landslides on hillsides. The movement of surface water also increases the delivery of pollutants from these surfaces into the environment - and ultimately the Ohio river watershed - through storm sewers and combined sewer overflows.<sup>3</sup> These effects on stormwater management are exacerbated by large rain events, increasing in frequency in recent years.<sup>4</sup>

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<sup>1</sup> <https://news.yale.edu/2020/09/02/asphalt-adds-air-pollution-especially-hot-sunny-days>

<sup>2</sup> <https://www.epa.gov/caddis-vol2/urbanization-stormwater-runoff>

<sup>3</sup> <https://www.epa.gov/caddis-vol2/urbanization-stormwater-runoff>

<sup>4</sup> [https://www.cincinnati-oh.gov/sites/oes/assets/File/2018%20Green%20Cincinnati%20Plan\(1\).pdf](https://www.cincinnati-oh.gov/sites/oes/assets/File/2018%20Green%20Cincinnati%20Plan(1).pdf)

## **II. Urban Heat Island Effect**

The high-contrast asphalt surfaces of surface parking lots can increase the urban heat island by absorbing heat and radiating, creating hotter surfaces and air temperatures.<sup>5</sup> The urban heat island effect was quantified across city neighborhoods in the 2021 Climate Equity Indicators Report which shows the highest effects are in areas with low tree canopy coverage and high percentage of impermeable surfaces - including paved surface parking lots. Neighborhoods with high percentages of paved surfaces were 12 degrees F hotter than in neighborhoods with lower percentages of paved surfaces.<sup>6</sup> The urban heat island effect contributes to increased heat-related injuries and deaths, increased energy costs, and increased air pollution levels.<sup>7</sup> Heat waves are increasing in frequency and duration across the United States.<sup>8</sup> This trend suggests that the urban heat island effect will increase in areas with large percentages of impermeable surfaces in future years.

## **III. Air Quality Issues**

The exposure of asphalt to extreme heat and solar radiation has shown a decomposition of the material into complex mixtures of organic materials including secondary organic aerosols. These materials contribute to PM2.5 air pollutants and are hazardous to human health and contribute to unhealthy air quality.<sup>9</sup> Hot temperatures and sunlight in areas with high percentages of asphalt, such as paved surface lots, can contribute to poor air quality. The potential secondary organic aerosols formed from the decomposition of asphalt is comparable to the level from vehicle emissions and is an important non-combustion source of emissions.<sup>10</sup>

## **IV. Enabling Automobile-Oriented Lifestyle Choices**

In Cincinnati, emissions from transportation now account for more than 30% of greenhouse gas pollution, driven by use of single-passenger vehicles. The use of urban land for surface parking contributes to car-oriented culture, lifestyle, and urban design. Parking availability has been shown to influence transportation decisions. Increases in parking options have led to increases in car-ownership, increases in driving frequency, and decreases in public transit use.<sup>11</sup>

cc: Oliver Kroner, Director of the Office of Environment and Sustainability

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<sup>5</sup> [https://www.cincinnati-oh.gov/sites/oes/assets/File/Summary\\_Report\\_Heat\\_Watch\\_Cincinnati.pdf](https://www.cincinnati-oh.gov/sites/oes/assets/File/Summary_Report_Heat_Watch_Cincinnati.pdf)

<sup>6</sup> [https://www.cincinnati-oh.gov/sites/oes/assets/File/Climate%20Equity%20Indicators%20Report\\_2021.pdf](https://www.cincinnati-oh.gov/sites/oes/assets/File/Climate%20Equity%20Indicators%20Report_2021.pdf)

<sup>7</sup> <https://www.epa.gov/green-infrastructure/reduce-urban-heat-island-effect>

<sup>8</sup> <https://www.epa.gov/climate-indicators/climate-change-indicators-heat-waves>

<sup>9</sup> <https://news.yale.edu/2020/09/02/asphalt-adds-air-pollution-especially-hot-sunny-days>

<sup>10</sup> <https://news.yale.edu/2020/09/02/asphalt-adds-air-pollution-especially-hot-sunny-days>

<sup>11</sup> [https://people.ucsc.edu/~jwest1/articles/MillardBall\\_West\\_Rezaei\\_Desai\\_SFBMR\\_UrbanStudies.pdf](https://people.ucsc.edu/~jwest1/articles/MillardBall_West_Rezaei_Desai_SFBMR_UrbanStudies.pdf)