Team 4: Increasing Pedestrian Space During COVID-19 in New York City

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Problem
- Pandemics such as COVID-19 have created the need to social distance and increase pedestrian infrastructure.

Goals Kept In Mind:
- Public Health
- Flexibility and Scalability
- Social Equity (equal distribution of solution)
- Environmental Sustainability

Short-Term Solution
- Strategically close down streets with light vehicular traffic and continuously optimize pedestrian foot traffic.

Long-term Solution:
- Permanently close streets + add green infrastructure
- Implement autonomous vehicles called Rollas
- Kinetic Electric Stepping Tiles
- Repaint streets with GuardTop albedo paint.

Sample Selection of Chosen Streets

- Spread out streets among 5 boroughs of NYC to ensure equity
- Bronx Park South (Bronx)
- 38th (Brooklyn)
- Broadway (Manhattan)
- Freedom Drive (Queens)
- Silver Lake Park (Staten Island)
- Avg. width: ~100 ft
- Avg. length: ~1200 ft

100 ft

10 ft

60 ft
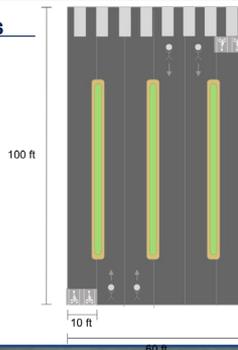
Kinetic tiles (left), Rolla (right)

Findings
- We have found that it is possible to create dynamic pedestrian spaces that offer benefits to surrounding communities.
- Allowing pedestrians to reclaim these spaces fosters a sense of community, improves health, and stimulate local economies.

Feasibility
- Historic Precedent: New York had created and expanded pedestrian spaces previous to the pandemic.
- Lobbying from rideshare companies: companies like Uber and Lyft have spent millions lobbying against legislation that would lower their profits.
- Cost: includes lost revenue from through-traffic, adding greenery, and larger changes such as the kinetic tiles and Rollas. Over time, these spaces have the opportunity to generate revenue.

Paying for it
- Taxes: Sales taxes would be increased, revenue from vehicle taxes would be diverted to fund our proposals
- Congestion pricing (traffic congestion)
- Private funding from philanthropic organizations
- Department of Sustainable Energy Grants (federal funding)

Cost-Benefit Analysis

Tiles	$97,906,500	Daily Energy Value	$157,902
Rolla	$420,912		
Planter	$4,191,802		
Cement	$3,563		
Labor	$2,160,000	Building Time	12 weeks
GuardTop	$814,496		
Total	$105,497,273	Payback Period	1.83 years

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