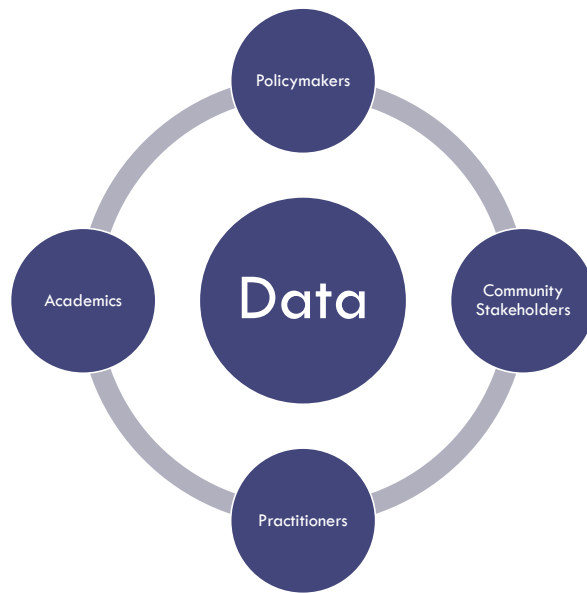1

2

HOW CAN WE USE DATA TO BETTER INFORM KEY STAKEHOLDERS TO PROVIDE AN **EQUITABLE** **MULTIMODAL** TRANSPORTATION SYSTEM?

Policymakers

Academics

Data

Community Stakeholders

Practitioners

3

3

OVERVIEW

ACCESS TO SCHOOLS

TRANSIT RELIABILITY

MULTIMODAL TRANSPORTATION

4

4

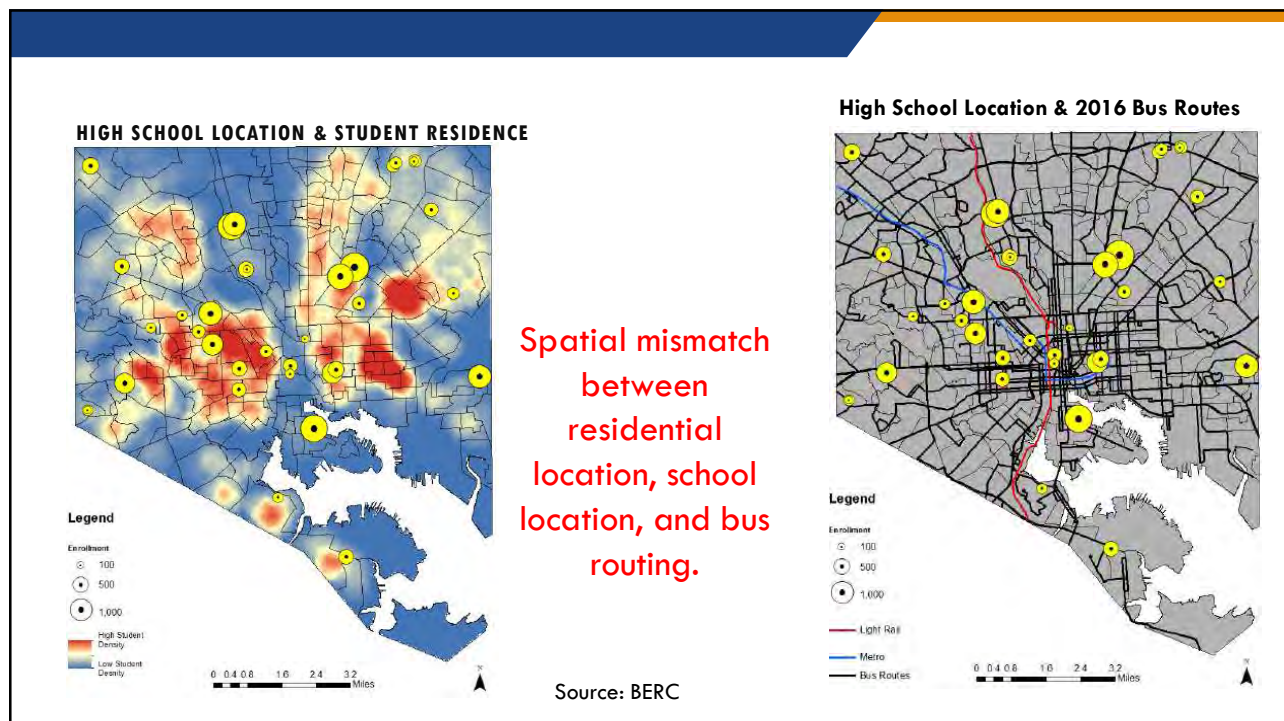## ACCESS TO SCHOOLS

5

OVERVIEW

- GTFS data has improved transit agency transparency through:
  - Public access to schedules, routes, real-time arrivals
  - Accountability and performance monitoring
  - Third-party innovation and public engagement
  - Benchmarking and comparative analysis

- GTFS-static data metrics
  - expected headway, stop spacing, route length, expected travel time ➡ **Access to schools (student advocacy)**

- GTFS-RT metrics
  - delays, service reliability ➡ **Transit reliability (general advocacy)**
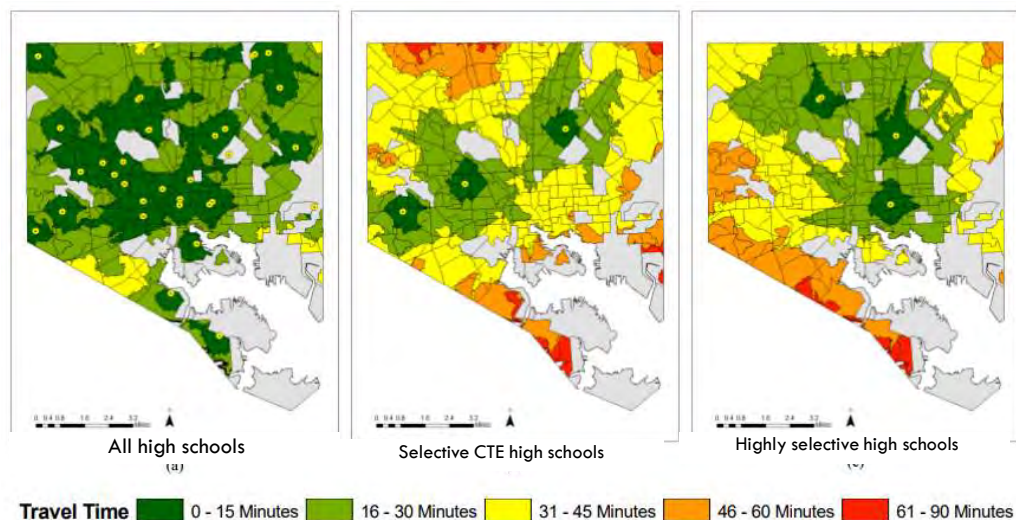
6

6

THE SITUATION

Open Choice Schools $+$ Use of public transit $=$ Long & complicated commutes

7

HIGH SCHOOL LOCATION & STUDENT RESIDENCE

High School Location & 2016 Bus Routes

Spatial mismatch between residential location, school location, and bus routing.

Source: BERC

8

Assumes 100% schedule adherence!

COMMUTE SHEDS BY TRANSIT

All high schools | Selective CTE high schools | Highly selective high schools

Travel Time ▮ 0 - 15 Minutes ▮ 16 - 30 Minutes ▮ 31 - 45 Minutes ▮ 46 - 60 Minutes ▮ 61 - 90 Minutes

9
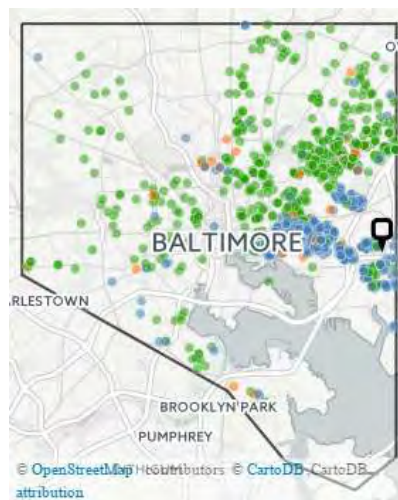
SCHOOL CHOICE

● White
● Black
● Other races

Poly (Selective school)

- Top high schools in Baltimore

- Entrance requirement

- Students come from across city – *transportation challenge*

Patterson (choice)

- Choice lottery

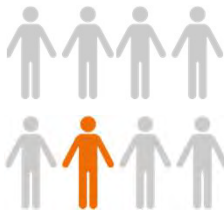- Students tend to live closer to school

10

COMMUTE TIME SUMMARY

- Mean travel time for students using public transit: **36.2 min**
- Mean travel time for adults to work using public transportation): **46.4 min** (Note: this includes Baltimore residents who commute outside of Baltimore)

Approximately 1 out of 8 MTA passenger trips is a high school student on his/her way to/from school

Despite this, students were largely not discussed during a bus system redesign.

1 in 4 students' estimated commutes by public transit is **greater than 45 min**

Students: 32% of trips do not require a transfer

Adults: 53% of trips do not require a transfer

Stein, M. L., Grigg, J., Cronister, C., Chavis, C., & Connolly, F. (2017). Getting to High School in Baltimore: Student Commuting and Public Transportation. *Baltimore Education Research Consortium*.

11

ANALYSIS OF PROPOSED BUS REDESIGN

Results: Number of Schools Accessible in 45 in
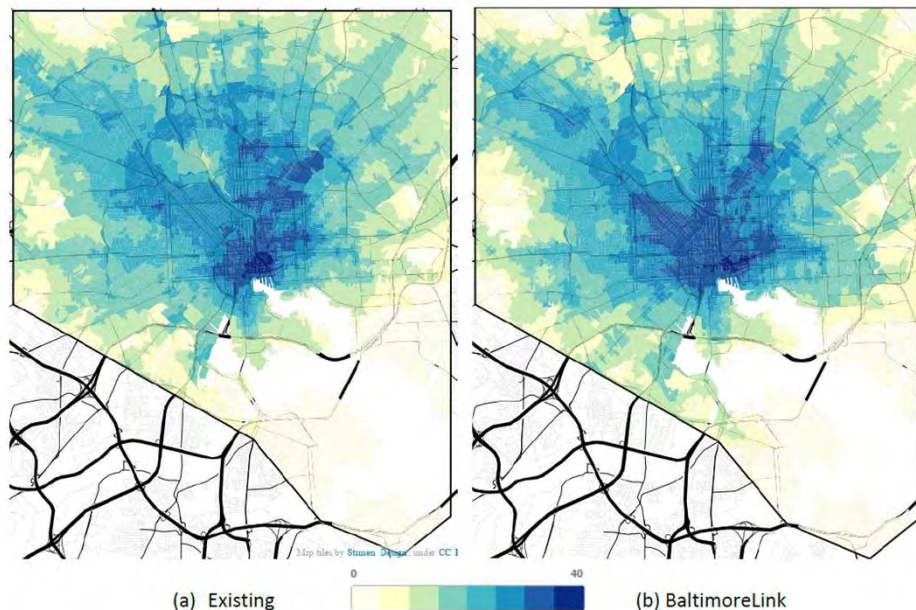- Increase: 47%
- No change: 14%
- Decrease: 39%

Transportation Alliance

(a) Existing

(b) BaltimoreLink

0   40

Figure 1. Number of High Schools Accessible within 45 mins

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TRANSIT RELIABILITY

13

ON-TIME PERFORMANCE

- Widely used due to its simplicity and applicability

- The definition of "on-time" varies widely.

Transit Center (2018)

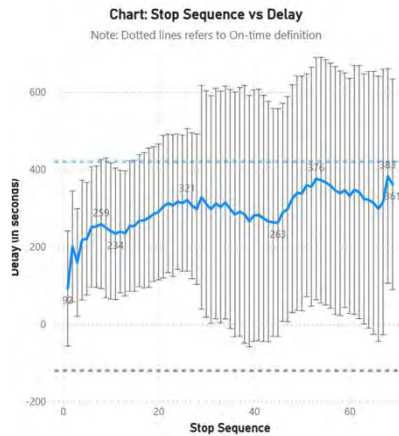| Agency	Early (Minutes)	Late (Minutes)
MTA New York City Transit (MTA measures Customer Journey Time Performance, rather than on-time performance)	1	5
Los Angeles Metro	1	5
Chicago Transit Authority	1	5
Southeastern Pennsylvania Transportation Authority (Philadelphia)	0	6
New Jersey Transit	0	6
MTA Bus Company (New York City)	1	5
Washington Metropolitan Area Transit Authority	2	7
San Francisco Muni	1	4
Massachusetts Bay Transportation Authority (for buses that come every 15 minutes or more frequent) (Boston)	0	3
King County Metro (Seattle)	1	5
Maryland Transit Administration (Baltimore)	2	7
Denver RTD	1	5
The Bus (Honolulu)	2	5
Houston METRO	0	5
TriMet (Portland)	1	5
Minneapolis Metro Transit	1	5
Miami-Dade Transit	0	5
Metropolitan Atlanta Rapid Transit Authority	0	5
Port Authority of Allegheny County (Pittsburgh)	1	6
RTC (Las Vegas)	0	5

14

14
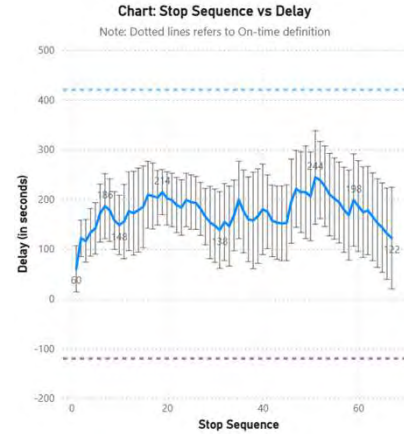
ON-TIME PERFORMANCE
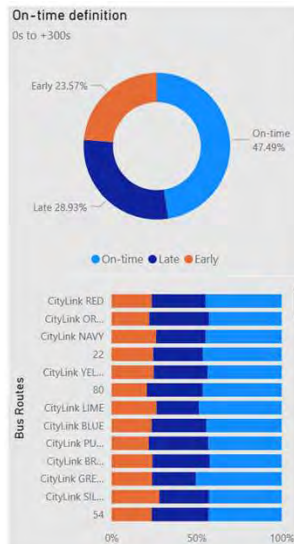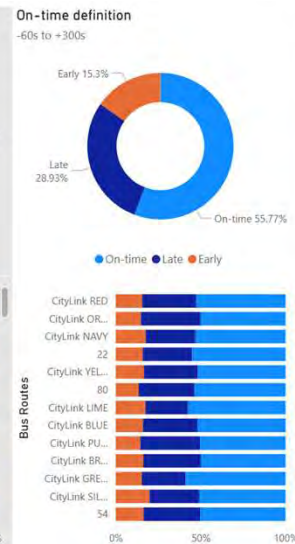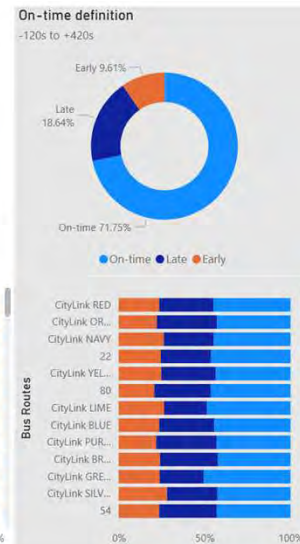
15
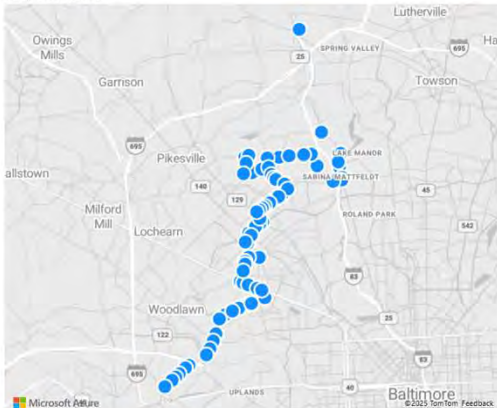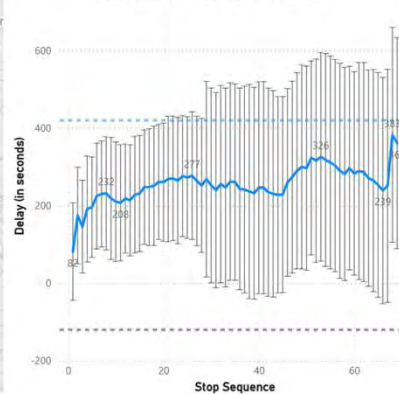
DELAY PROPAGATION

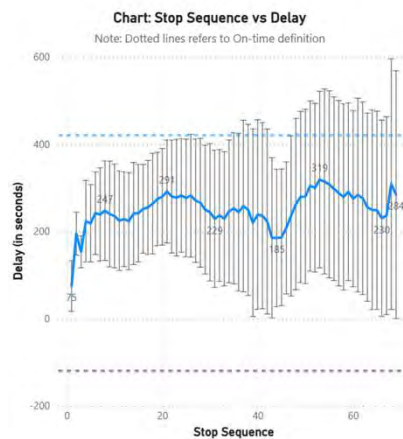16

DELAY PROPAGATION: TEMPORAL TRENDS
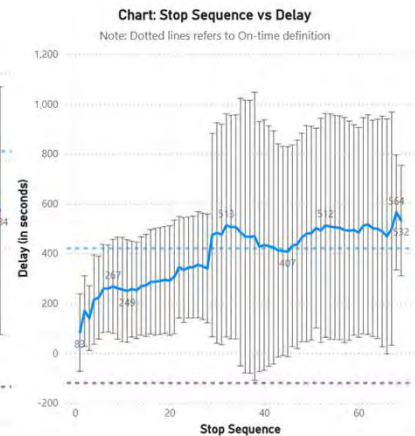
Weekday

Weekend

17

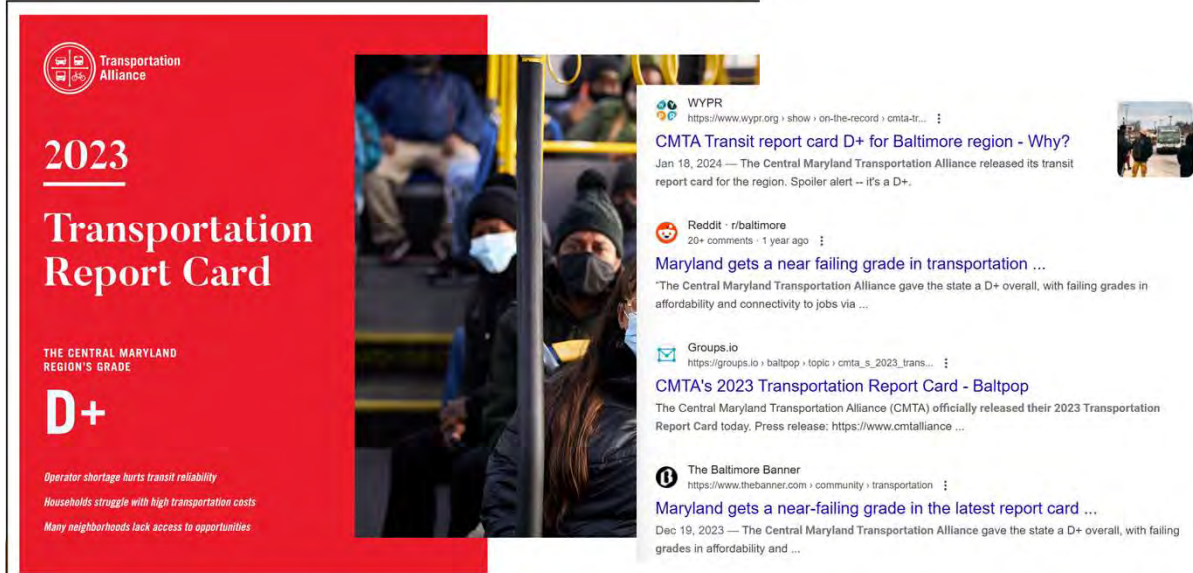DELAY PROPAGATION: TEMPORAL TRENDS

Weekday, AM Peak

Weekday, Off-Peak

Weekday, PM Peak

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RELIABILITY METRICS & ADVOCACY: TRANSPORTATION REPORT CARD

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RELIABILITY METRICS & ADVOCACY: TRANSPORTATION REPORT CARD

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BALTIMORE RED LINE

Hogan Puts Brakes on Red Line

Rawlings-Blake "disheartened" by decision; Montgomery and Prince George's line gets go-ahead.

By Ron Cassie | June 25, 2015, 07:06 pm

#transportationjustice

INVESTING IN MARYLAND'S HIGHWAYS AND BRIDGES
$1.97 Billion in Projects to Get Underway by 2018

Hogan says no to Red Line, yes to Purple

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BALTIMORE REGIONAL TRANSIT COMMISSION (BRTC)

The charge:

- To engage in advocacy for the Baltimore region public transit systems maintained by MTA

- To ensure that the Administration's plans, budgets, decisions, policies, goals, priorities and operations address the public transit needs of residents and businesses in the Baltimore region.

Key Tasks

- Review and comment on service change reports and proposals

- Review and comment on the Administration's Annual operating and capital budget request

- Review and approve any update to the Central Maryland Regional Transit Plan

- Review and comment on the Capital Needs Inventory

- Review local transit plans and services in the Baltimore region to ensure coordination between local transit services and the administration
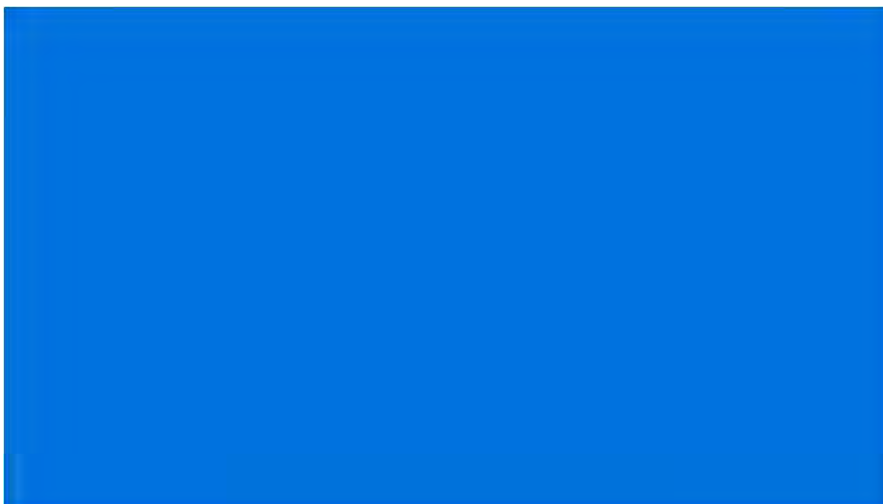
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MULTIMODAL TRANSPORTATION

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MULTIMODAL TRANSPORTATION

Shared Bus/Bike Lane Safety Analysis: Assessing Multimodal Access and Conflicts, UMEC

Bikes did not adversely impact bus travel time; Bikes were impacted by bus travel time

Operation of these facilities were generally safe; MTA operators never attempted to pass a cyclist

Right turning cars, parked cars impacted performance of lane
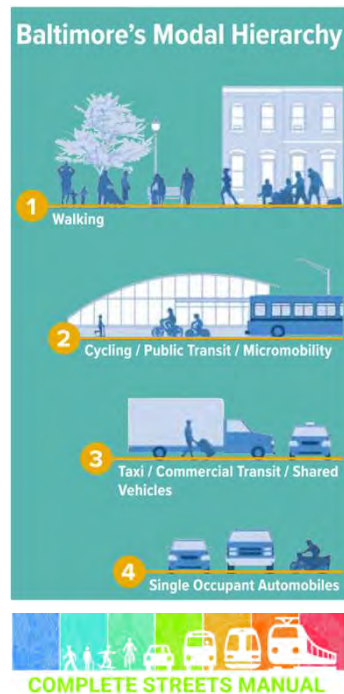→ Enforcement is critical

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BALTIMORE CITY POLICY WORK

Provided recommendations in the following focus areas:

1. Building public safety
2. Building an inclusive, equitable economy
3. Restoring trust in city government
4. Supporting Baltimore during and after COVID-19

Mayor's Transition Committee Report report

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25

BALTIMORE'S COMPLETE STREETS ORDINANCE

Complete Streets: Design and operate the entire right of way to enable safe access for all users, regardless of age, ability, or mode of transportation

Motivators: safety, heath, environment, equity, economy, and efficient use of limited street space and transportation funds

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THANK YOU

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