PROJECT DESCRIPTION

PROJECT INTRODUCTION

Butler County, Pennsylvania is requesting $60,990,000 from the United States Department of Transportation's (USDOT) FY25 Multimodal Project Discretionary Grant (MPDG) Program to complete Mars Railroad Bridge West, a $101,650,000 construction project referred heretofore as the MRBW Project. The MRBW Project is part of the broader State Route (SR) 228 Corridor Improvement Project (referred to as "Gateway 228"), a $286 million investment aimed at enhancing safety, mobility, and efficiency on SR 228, stretching from its western terminus in Beaver County to its eastern terminus at Route 356 near the Armstrong County border. This multi-jurisdictional investment spans the entirety of SR 228, which is vital to the connectivity, economic activity, and sustainability of Butler County, particularly the seven communities along Gateway 228 (Cranberry, New Sewickley, Seven Fields, Adams, Middlesex, Clinton, and Buffalo). SR 228, a principal arterial on the National Highway System (NHS), is a key connection to Interstate 79 and the Pennsylvania Turnpike (Interstate 76), linking Butler County to the region, state, and nation. Pennsylvania Department of Transportation (PennDOT) classifies SR 228 as an Urban Arterial Highway. The MRBW Project, which constitutes 3.25-miles of the 26.4-mile Gateway 228 corridor, is the last and final segment that needs to be constructed.

STATEMENT OF WORK

The requested MPDG funds will be designated exclusively for the construction phase of the MRBW Project, which will expand capacity and improve safety along the 3.25-mile section of SR 228. This Project is located from Franklin Road in Cranberry Township to just east of Beaver Street Extension in Adams Township, Butler County, Pennsylvania. The following studies have been completed to inform the design of the Project. A 2018 Traffic Design Report completed for MRBW Project assessed current and anticipated traffic operations, capacity, mobility, and safety, compiling relevant data to inform design. A "confidential" Safety Study based on corridor-specific crash histories was conducted to analyze existing and future safety conditions and determine proposed improvements. An Addendum was issued in 2020 to address changes to intersection configurations, supplementing the original report and validating updates within the current Design Field View package. Furthermore, the Project received a Categorical Exclusion, Class 2 resulting from completion and approval of the NEPA process on February 20, 2024.

1 UPGRADE ROADWAY RELIABILITY **2 IMPROVE SAFETY** **3 EXPAND ACCESS** **4 PROMOTE ECONOMIC VITALITY**

DETAILED STATEMENT OF WORK:

ADDITIONAL CAPACITY:

MRBW Project will widen and add lanes (17,161 linear feet) to the 3.25-mile segment of SR 228 and modernize 8 intersections. Specifically, four 11-foot lanes (two in each direction), a 16-foot median, and 10-foot shoulders will be installed. Additionally, turning lanes will be strategically integrated at various points, including at side roads along the corridor, to enhance capacity and alleviate queuing and congestion.

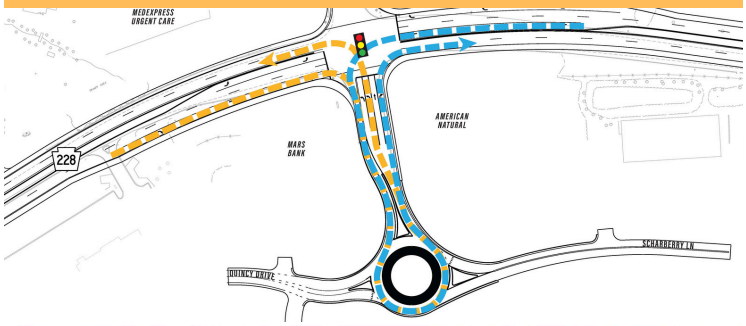
SAFE CONNECTIONS:

Heritage Creek Single-Lane Roundabout: Just south of SR 228, the intersection of Heritage Creek Drive and Scharberry Lane will be updated to a new single-lane roundabout configuration. The roundabout is anticipated to serve local traffic and planned developments in the immediate vicinity. This roundabout will also cater to motorists intending to turn left into Fox Trot Drive (from SR 228 East). These motorists will, instead, continue along SR 228 East to Heritage Creek Drive, turn right to access this new roundabout at Heritage Creek Drive and Scharberry Lane, and then use the roundabout to turnaround and return to Fox Trot Drive via SR 228 West.

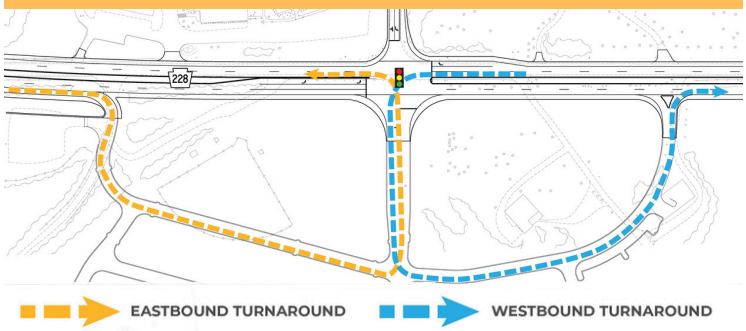
Mars Alliance/Church Road: Movement at the Mars Alliance Church driveway on SR 228 will be restricted to right in/right out only. Access to the church will be added via Roxsan Drive from Myoma Road. An access road (Roxsan Drive) will be introduced, enabling departing traffic to make left turns eastbound onto SR 228 from Myoma Road and from Roxsan Drive onto SR 228.

Beaver Street Extension: The intersection of Beaver Street Extension and SR 228 will be relocated approximately 700' to the east. The new intersection will incorporate a signalized jughandle offering access to Beaver Street and a turnaround for both eastbound and westbound traffic on SR 228. The new layout will include adequate storage length per the Traffic Design Report, including a 345' eastbound left-turn lane, 295' westbound right-turn lane, and a 75' southbound left-turn lane. The new jughandle will require a cul-de-sac modification at Scharberry Lane.

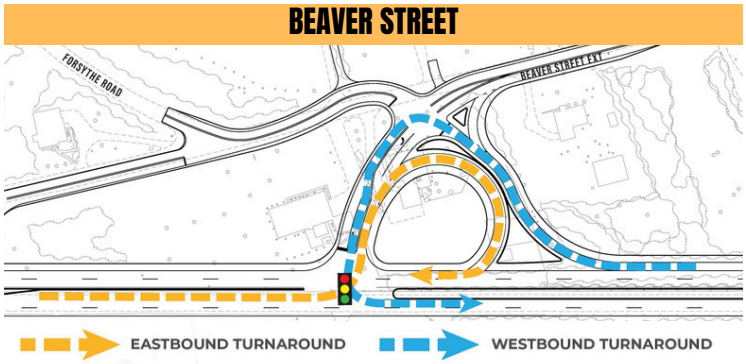
HERITAGE CREEK DRIVE



MYOMA ROAD



BEAVER STREET



NON-MOTORIZED TRANSPORTATION IMPROVEMENTS:

No bicycle or pedestrian facilities exist along SR 228 within the Project area. Thus, the Project will include sidewalk connections at two key locations: from Castle Creek Drive to Shoppes at Adams Ridge Driveway/Seven Fields Boulevard and from Heritage Creek Drive south to the Heritage Creek Drive/Scharberry Lane roundabout. To bolster safety enhancements, the Project will install a total of 42 LED pedestrian countdown signals and 42 pedestrian push buttons at all improved and newly constructed intersections. Crosswalks and ADA curb cuts will also be installed at these locations to reduce crossing conflicts and enhance pedestrian safety.

INTERSECTION IMPROVEMENTS:

Within the MRBW Project, various intersection-specific improvements will be implemented, including additional turning and through lanes. The specific improvements that will be made at each intersection include:

SR 228/Franklin Road (#225) • SR 228 EB: 300' left and 250' right turn lanes • SR 228 WB: 350' left and 330' right turn lanes • Franklin SB: Right turn and through lanes • Franklin NB: Through lane	**SR 228/Heritage Creek Drive (#255):** • SR 228 EB/WB: Passthrough lanes • Heritage Creek SB: right turn lane • Heritage Creek NB: Left turn lane • SR 228 EB/WB: Additional through lane
SR 228/Castle Creek Dr East (#235): • SR 228 EB: 275' right turn and through lane • SR 228 WB: Additional through lane	**SR 228/Scharberry Lane (#260):** • SR 228 EB: Right turn and passthrough lanes • SR 228 WB: Passthrough lane
SR 228/Adams Ridge Blvd (#245): • Restricted right-in/right-out movements • Installation of median islands along SR 228 • SR 228 EB/WB: Additional through lane	**SR 228/Myoma Road (#250):** • SR 228 EB: 300' left turn and through lanes • SR 228 WB: 150' right turn and through lanes • Myoma SB: Left turn lane onto SR 228
SR 228/High Pointe Drive (#230) • SR 228 EB/WB: Additional through lane	**SR 228/Seven Fields Blvd (#240):** • SR 228 EB/WB: Additional through lane

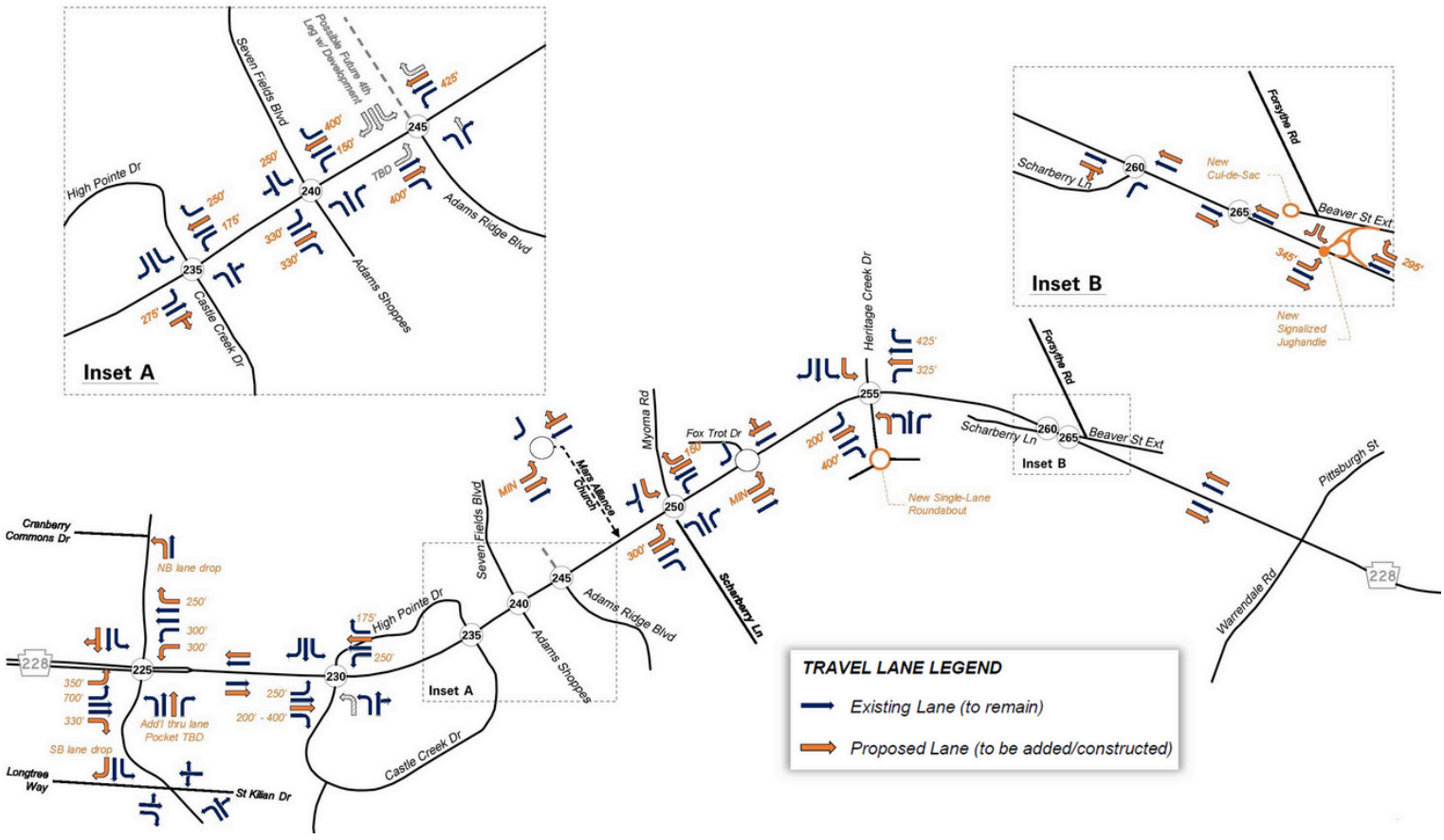
TRAFFIC SIGNAL ENHANCEMENTS:

The Project will enhance corridor operations by installing new traffic signal equipment and system upgrades. This encompasses eight video detection systems, eight advanced radar detection systems, eight acoustic emergency vehicle preemption systems, and eight CCTV video cameras. These enhancements will optimize traffic signal operations and minimize both recurring and non-recurring congestion.

STATUS OF DESIGN

The MRBW Project is 50% designed and is currently in Final Design, which started April 2024 and will conclude in October 2026.

MRBW PROPOSED LANE CONFIGURATIONS



MRBW TRANSPORTATION CHALLENGES

The strength of Butler County's economy is completely reliant on Gateway 228. It moves the most people and freight in the County. In April 2017, Butler County completed a Mobility Plan (Plan) that specifically examined transportation challenges throughout the County, including Gateway 228, and identified solutions to mitigate those transportation problems. The Plan inspected Butler County's roadway network using three overarching performance measures: (1) Safety & Reliability; (2) Maintenance; and (3) Community & Economic Development. The results of the Plan show that the greatest transportation challenges along Gateway 228 are increasing traffic, excessive crashes, and the inability to keep pace with development. This approach was then applied to the MRBW Project to confirm that the same transportation challenges identified in the corridor also impact the specific Project area. Application of these metrics to the MRBW Project verified similar results. The Project area has a number of deficiencies that can be grouped into three categories – roadway reliability, excessive crashes, and the inability to keep pace with development.

MISSING LINK TO GATEWAY 228: Completing the MRBW Project is vital as it's the last Gateway 228 section awaiting reconstruction and modernization. Its central position on SR 228 means that leaving it unfinished will cause a bottleneck, decreasing corridor efficiency. With a wider five-lane section to the west and ongoing PennDOT activities to the east, the existing MRBW segment forms a 3.25-mile-long two-lane bottleneck. Without enhancements, this bottleneck will hinder connectivity between present and future corridor enhancements.

1 ROADWAY RELIABILITY

Unprecedented economic growth has significantly increased traffic levels.

The MRBW Project section is not able presently to accommodate this volume of traffic, resulting in heavy congestion and blocked auxiliary lanes.

Four out of eight locations face overall intersection failures and all eight experience one or more approach failures.

59.2 SECOND DELAY PER VEHICLE

Failure to advance the MRBW project will create a bottleneck, impeding improvements already made in the Gateway 228 Corridor.

MRBW CORRIDOR
TRAFFIC VOLUMES & GROWTH RATES

2024
35,700
VEHICLES PER DAY

2050
44,500
VEHICLES PER DAY

25% INCREASE

2 SAFETY & EXCESSIVE CRASHES

OVER 400 ACCIDENTS
In the MRBW Corridor between 2016 - 2022

Rear-End crashes comprise the majority (70%) of incidents, significantly surpassing the statewide average of 22%.

There have been three accidents involving school buses in the corridor that have resulted in injuries.

Accidents are primarily attributed to high traffic volumes, queuing, and congestion.

3 DEVELOPMENT, COMMERCE, AND ECONOMIC VITALITY

As a vital commuter route and a crucial regional freight corridor, SR 228 has struggled with escalating traffic congestion and deteriorating transportation conditions amidst rapid development. Anticipated traffic growth is poised to raise estimated AADTs by over 33%. Moreover, projected expansion of at least 10 major development parcels along the corridor is expected to push the growth rate to nearly 52%. Despite substantial upgrades along the corridor, the full realization of economic development and prosperity in Butler rests on the completion of the MRBW Project.

Between 2020 and 2023, there have been 4,836 new residential lots developed and/or reviewed by the Butler County Planning Commission.

GROWING AGRICULTURAL INDUSTRY

There are 16 farms along Gateway 228. These farms, along with related businesses, rely on MRBW for shipping their products.

OVER 6,000 BUSINESSES
WITHIN A 3-MILE RADIUS OF MRBW

In the last 4-years, the Planning Commission has reviewed 49 site plans for businesses that are new or located to expand along the Gateway 228 Corridor.

ADDRESSING TRANSPORTATION CHALLENGES

INCREASING CAPACITY:

Expanding the Project from 2-lanes to 4-5 lanes boosts roadway capacity, alleviating chronic congestion and minimizing delays, particularly at intersections. This enhances reliability and promotes smoother traffic flow. This expansion not only caters to current traffic demands but also provides room for future growth and development, ensuring the corridor can efficiently handle increasing volumes of vehicles.

IMPROVING SAFETY:

The Project's safety enhancements go beyond traditional measures. Pedestrian warning signs, push buttons, and ADA-accessible features improve safety for vulnerable road users, such as pedestrians and cyclists. Emergency vehicle preemption systems ensure timely responses to emergencies, reducing the risk of accidents and improving the Project area and overall corridor safety for all users.

ECONOMIC VITALITY:

The Project's construction improves transportation efficiency and safety, directly boosting economic vitality. Businesses benefit from enhanced accessibility, enabling more cost-effective movement of goods and services. Furthermore, its completion attracts new investment, stimulates economic development, and creates jobs, fostering prosperity for the local community and the broader region.

2.15 BENEFIT COST RATIO AT THE **3.1%** DISCOUNT RATE

65% DECREASE IN SERIOUS ACCIDENTS

59% DECREASE IN MINOR ACCIDENTS

63% REDUCTION IN PEAK HOUR DELAYS

PROJECT HISTORY

1997 - 2007:

- In 1999, while awaiting implementation of a comprehensive approach to fix SR 228/Freedom Road, Cranberry Township invested more than $40 million in direct and adjoining transportation infrastructure along the corridor.
- Concurrent with Cranberry Township's stop gap measures to alleviate local pressure, Butler County and municipal officials continued to work with communities to refine and finalize the overall reconstruction of SR 228/Freedom Road, a concept that came to be called Gateway 228.

2008 - 2016:

- Gateway 228 is finalized and slated for a 2008-2010 construction timeframe; however, the 2008 financial crisis results in significant delays in the construction of Gateway 228.
- PennDOT District 10 and Cranberry Township continued to complete portions of Gateway 228 based on need and/or funding availability.
- By the time the economy recovered, five years had passed, construction costs had escalated, and private investment had decelerated. Gaps in funding further derailed construction of Gateway 228.
- In 2016, Shell Chemical announced its plan to build an ethane cracker plant at the western edge of the SR 228/Freedom Road corridor in neighboring Beaver County. This $6 billion investment revived Butler County's urgency to implement Gateway 228.

2017 to Present:

- Beaver County and PennDOT District 11 were in the process of an 8-mile, $93.8 million upgrade of Freedom Crider Road in their jurisdiction to the Butler County line. These improvements connected with the Gateway 228 segments in Butler County.
- In 2018, Butler County applied for and was awarded a $20 million BUILD grant to complete two additional segments of Gateway 228 – Balls Bend and Haine School-Commonwealth. (Balls Bend construction is underway and will be finished in 2025 and Haine School-Commonwealth construction was completed last year.)
- In 2020, Butler County applied again to BUILD and was subsequently awarded $25 million to complete two additional segments of Gateway 228 - Three Degree Road and Beaver County to Haine School. (These segments are currently under construction and anticipated to be completed by late 2026.)

PREVIOUSLY COMPLETED SEGMENTS:

	Project Segment	Construction Cost	Status
A	SR 3020 Freedom Rd – Beaver Co. to Haine School	$20,257,567	Construction
B	SR 3020 Freedrom Rd – Haine School to Commonwealth Dr	$11,362,775	Completed
C	Freedrom Road Turnpike Bridge	$18,169,186	Completed
D	US 19/Freedom Rd/ PA 228 Intesrection	$3,781,182	Completed
E	PA 228/I-79 Ramps	$15,745,572	Completed
F	MSA Thruway	$2,876,236	Completed
G	**MARS RR Bridge West Expansion**	**$101,650,000**	**FINAL DESIGN**
H	Pittsburgh Street Intersection	$8,614,905	Completed
I	PA 228 Mars RR Bridge	$14,394,748	Completed
J	Three Degree Road Intersection	$55,898,469	Construction
K	Balls Bend	$30,538,888	Construction

$286 M INVESTMENT

10 OUT OF 11 SEGMENTS FUNDED

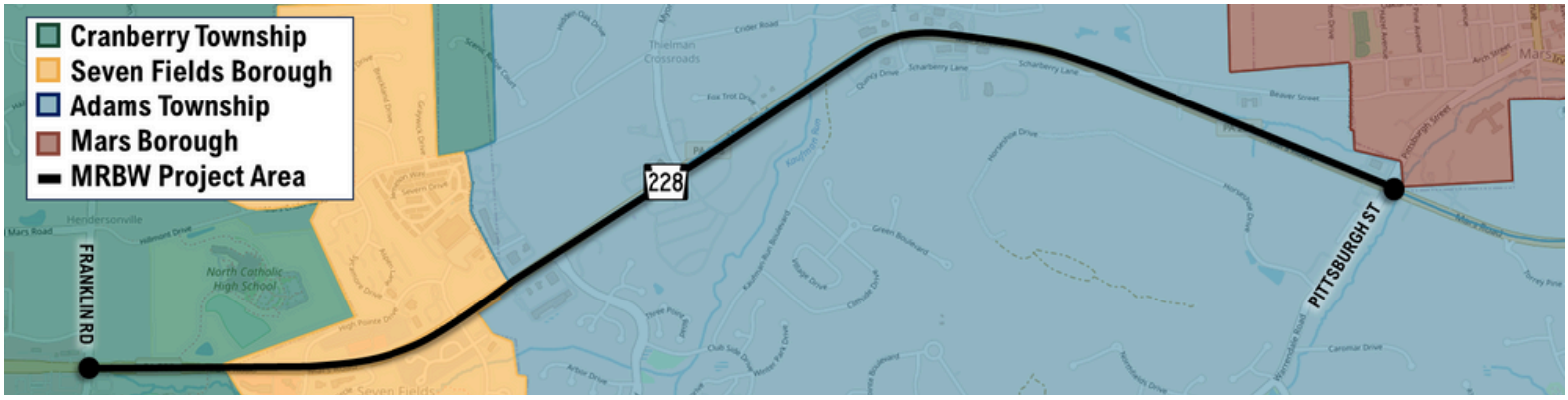
7 SEGMENTS FULLY CONSTRUCTED

3 SEGMENTS UNDER CONSTRUCTION

PROJECT LOCATION

SPECIFIC PROJECT LOCATION:

The MRBW Project is in southern Butler County, Pennsylvania, from Cranberry Township on the west, through Seven Fields Borough, and Adams Township to the east. The Project area is approximately 18 miles north of Pittsburgh. The rolling landscape along SR 228 varies from commercial development on the western end of the Project limits near Franklin Road with a more commercial/residential mix continuing towards the intersection of Beaver Street Extension and SR 228 to the east.



KEY FACTS AND REGIONAL SIGNIFICANCE:

OVER 6,000 STUDENTS

IN K-12 ATTEND A PUBLIC OR PRIVATE SCHOOL LOCATED ALONG THE GATEWAY 228 CORRIDOR.

CRANBERRY TOWNSHIP

THE FASTEST GROWING TOWNSHIP IN PENSYLVANIA IS LOCATED ON THE GATEWAY 228 CORRIOR.

$6 BILLION CRACKER PLANT

GATEWAY 228 PROVIDES DIRECT ACCESS TO SHELL'S CRACKER PLANT IN BEAVER COUNTY, WHICH SUPPORTS OVER 600 JOBS.

CITY OF PITTSBURGH

GATEWAY 228 IS LOCATED APPROXIMATELY 18-MILES NORTH OF THE CITY OF PITTSBURGH, AND PROVIDES ACCESS TO THE PITTSBURGH INTERNATIONAL AIRPORT FOR RURAL AND SUBURBAN RESIDENTS IN BUTLER.

GLOBAL DISTRIBUTION

THE GATEWAY 228 CORRIDOR PROVIDES CRITICAL CONNECTIONS TO THE OHIO RIVER SHIPPING PORT ON THE WEST AND FREEPORT BOROUGH'S SHIPPING PORT ON THE EAST.

$20 BILLION IN FREIGHT

OVER 93% OF TOTAL FREIGHT IN BUTLER COUNTY IS ESTIMATED TO MOVE BY TRUCK. IN THE GATEWAY 228 CORRIDOR, MORE THAN $20 BILLION WORTH OF GOODS ARE EXPORTED EACH YEAR.