

The Crescent Corridor

Improving Lives and Livelihoods



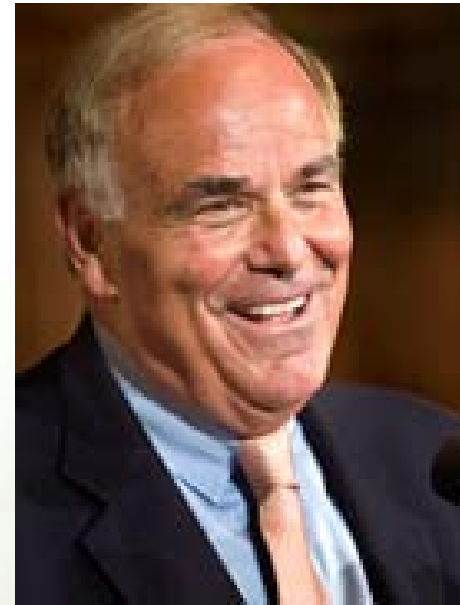
Philadelphia, Pennsylvania
October 2009



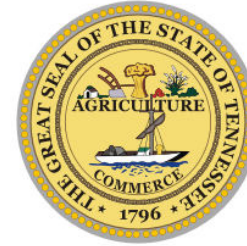
Vision and Leadership

“Rail freight is an important component of any transportation infrastructure discussion. The Crescent Corridor will create good jobs, generate revenue, and help reduce highway congestion. In fact, it has the best potential to divert freight off of I-81 and our highways. Pennsylvania has invested heavily in rail freight because it is a smart, environmentally friendly, cost-effective infrastructure investment. I will continue to advocate for rail freight investments at the state and national level.”

Governor Ed Rendell



Crescent: A Crouching TIGER



•On September 15, 2009, a joint TIGER application (Transportation Investment Generating Economic Recovery) was filed on behalf of the Crescent Corridor by the Governors of Pennsylvania, Alabama, Mississippi, Tennessee, and Virginia.

Funding Partners:

*The Commonwealth of Pennsylvania has committed \$45 million over three years.

*The Commonwealth of Virginia has invested \$43 million since 2007 and has pledged an additional \$60 million.

*Norfolk Southern has outlined a \$264 million commitment by 2013.

\$25 in public benefits for every \$1 of public funds invested from 2011-2040*

\$16 in public benefits for every \$1 of public funds invested from 2011-2030*

*Monetized public benefits at a 3% discount rate, derived from Cambridge Systematics analysis



Why Crescent, Why Now?

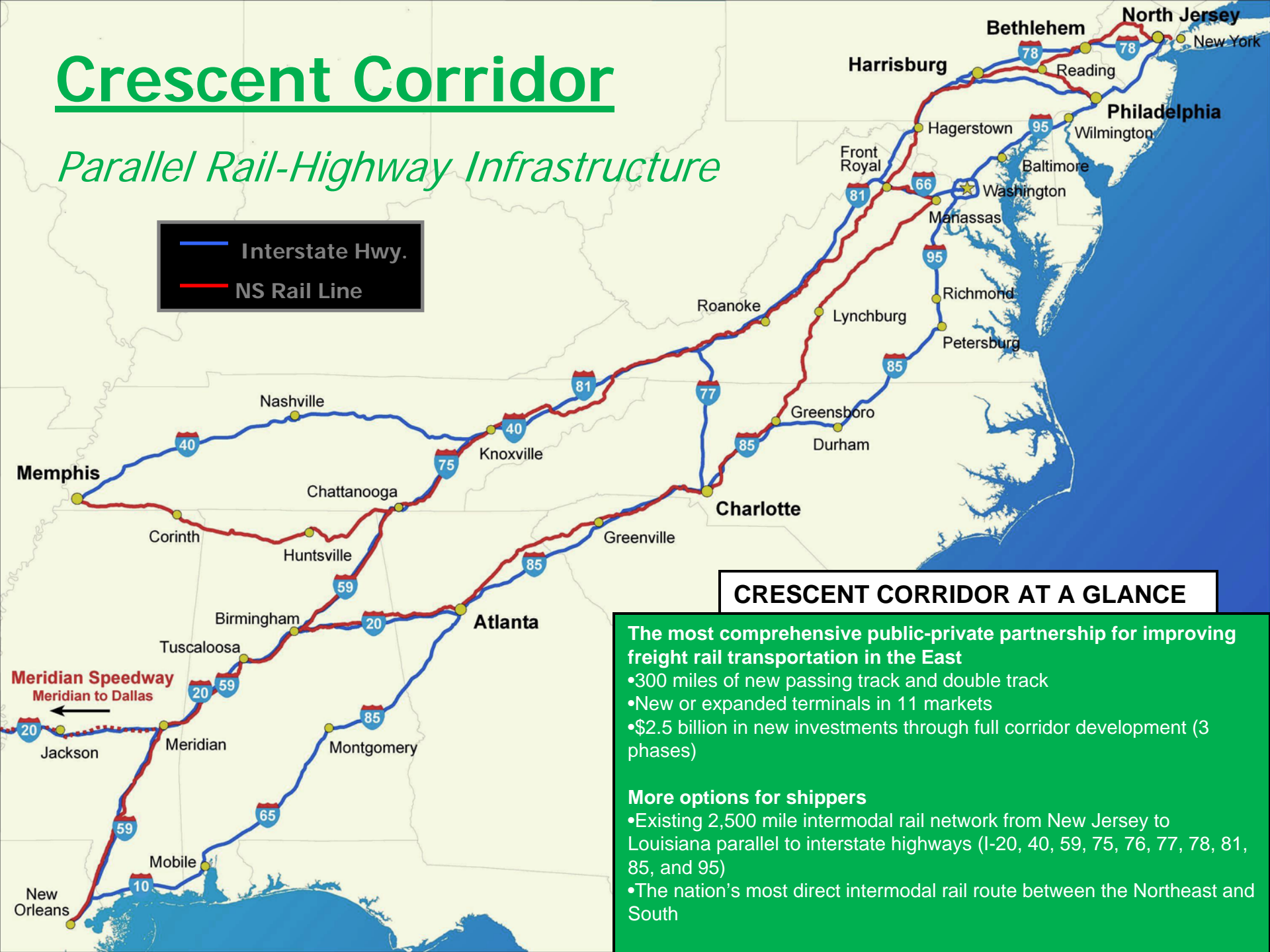
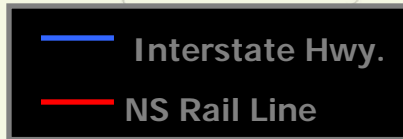
Macro-Perspective

- Americans spend **4.2 billion hours** annually stuck in traffic at a cost of \$78.2 billion or \$710 per motorist.
- Poor road conditions cost U.S. motorists **\$67 billion** a year in *repairs and operating costs* or \$333 per motorist.
- 33%** of the Nation's major roads are in poor or mediocre condition.
- 36%** of the Nation's major urban highways are congested.
- U.S. freight volumes are expected to grow by **67%** between 2002 and 2020, alone; **88%** by 2035.

The current spending level of **\$70.3 billion for highway capital improvements** is well below the estimated **\$186 billion needed annually** to substantially improve the nation's highways, according to the National Surface Transportation Policy and Revenue Study Commission.

Crescent Corridor

Parallel Rail-Highway Infrastructure



CRESCENT CORRIDOR AT A GLANCE

The most comprehensive public-private partnership for improving freight rail transportation in the East

- 300 miles of new passing track and double track
- New or expanded terminals in 11 markets
- \$2.5 billion in new investments through full corridor development (3 phases)

More options for shippers

- Existing 2,500 mile intermodal rail network from New Jersey to Louisiana parallel to interstate highways (I-20, 40, 59, 75, 76, 77, 78, 81, 85, and 95)
- The nation's most direct intermodal rail route between the Northeast and South

Crescent Corridor at a Glance

Crescent will attract more than 1.3 million long-haul trucks per year from interstates by full development, ANNUALLY delivering*:

\$1 billion in Logistics Savings

\$575 million in Congestion Savings

\$146 million in Safety Savings

170 million gallons in Fuel Savings

1.9 million tons of CO2 Eliminated

\$90 million in Highway Maintenance Savings

\$2 billion in Total Monetized Public Benefits

*Monetized public benefits derived from Cambridge Systematics analysis



Crescent Corridor at a Glance

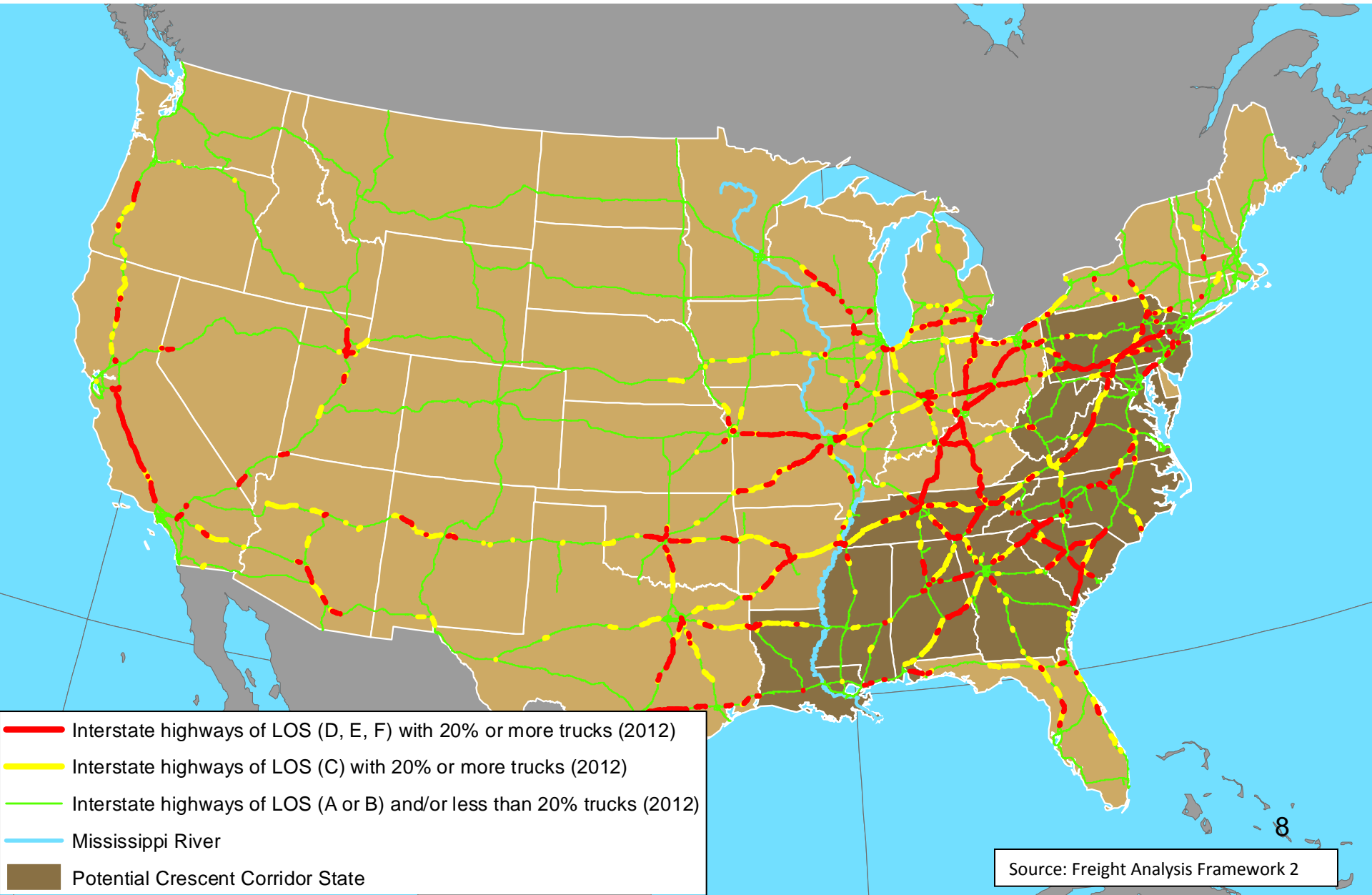
The Crescent Corridor will serve as an engine of economic growth*:

- **3,600** direct construction-related full time equivalent jobs
- **23,000** construction-related full time equivalent jobs from at risk and potentially benefited industrial expansions
- **56%** of Crescent TIGER funding will occur within economically distressed areas
- **73,000** jobs created or benefited by 2030
- **\$40 billion** in Cumulative Economic Impact from 2009 – 2030

*Economic impact derived from Insight Research Corporation analysis



By 2012, Traffic Congestion on Many Segments of Eastern U.S. Highways Will Consist of Over 20% Trucks

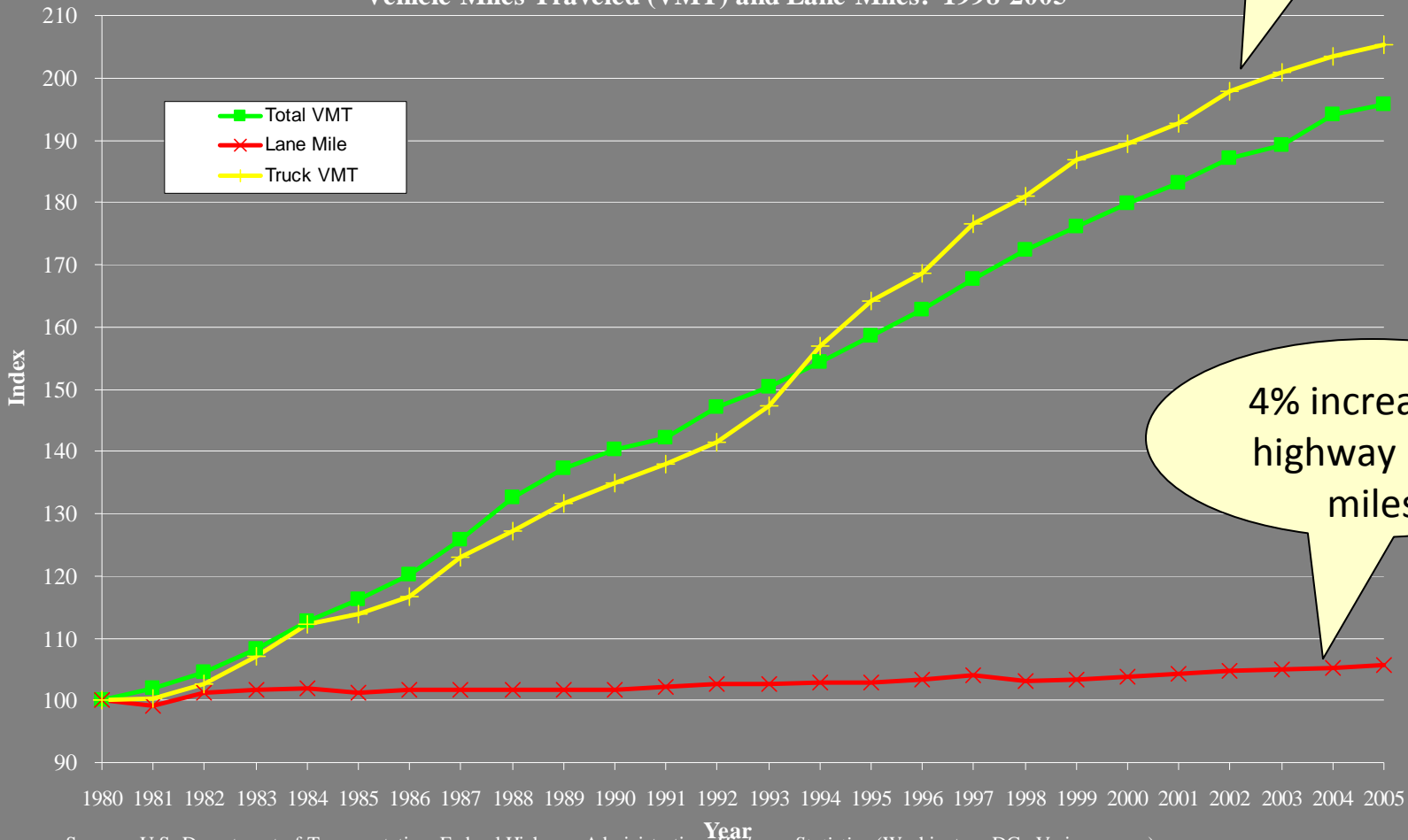


Highway Traffic is Rapidly Outpacing Capacity

105% increase in Truck VMT

4% increase in highway lane-miles

Vehicle-Miles Traveled (VMT) and Lane-Miles: 1998-2005

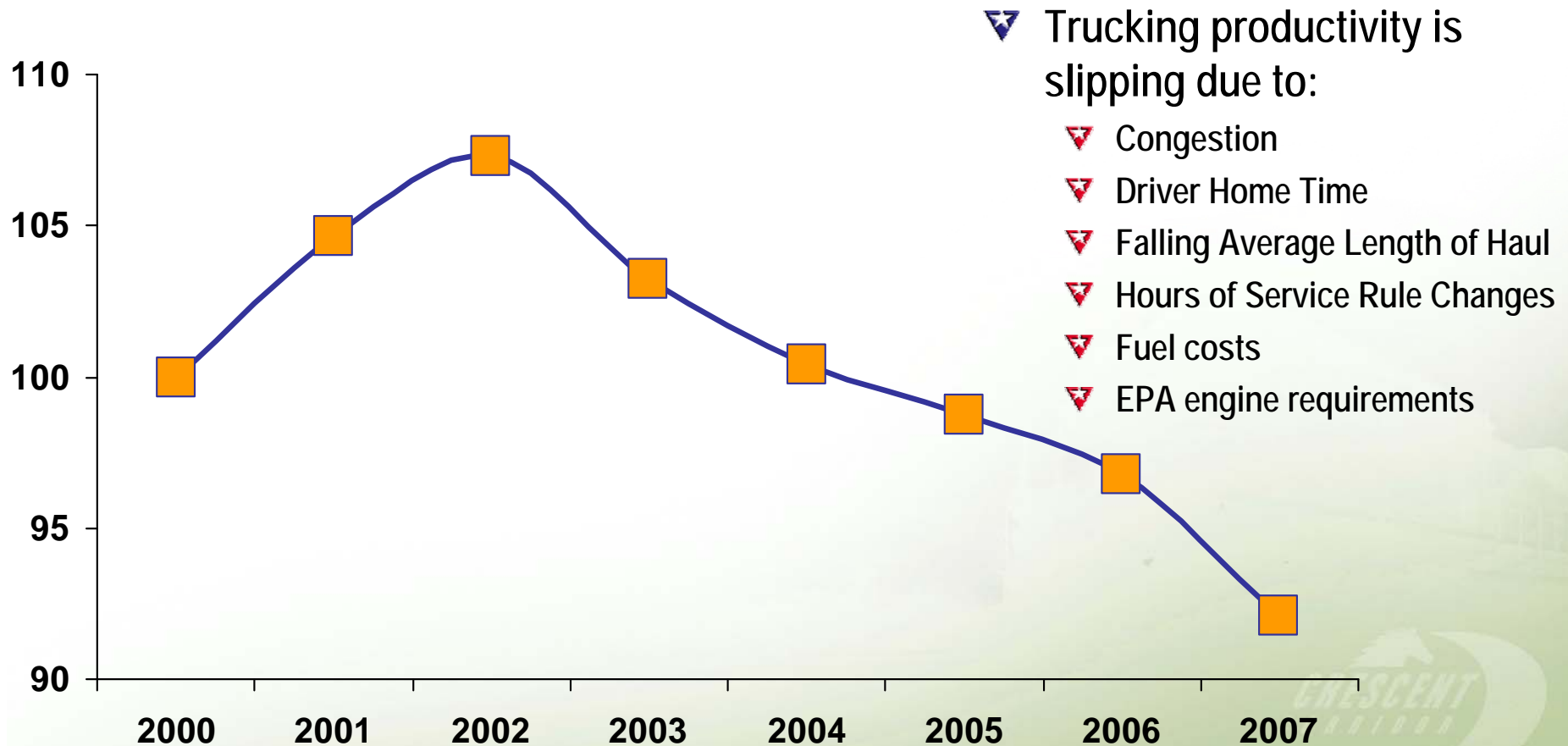


Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: Various years).

* Updated with data current as of October 2006

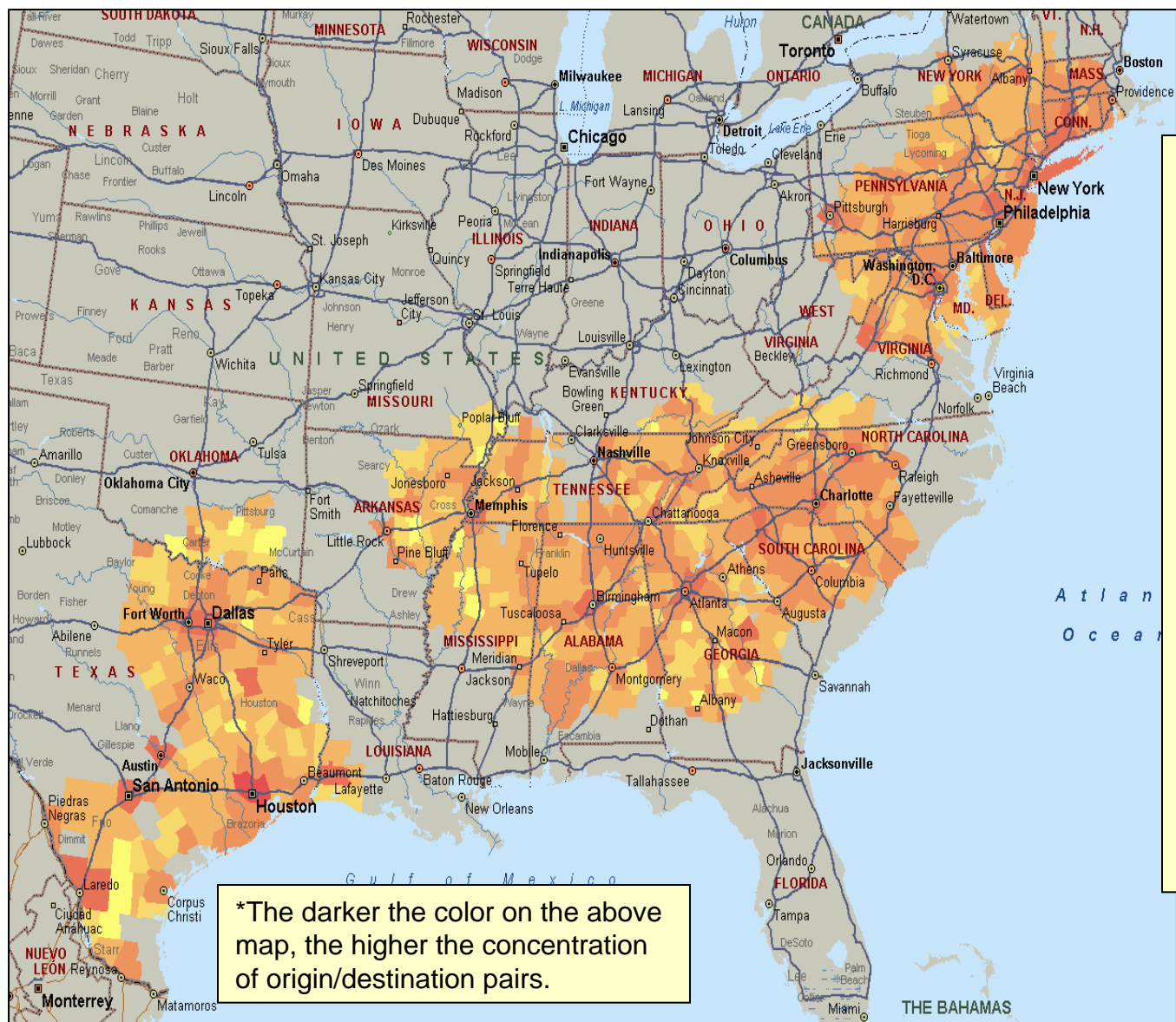
Truckload Productivity is Diminishing:

Index of Miles per Truck per Month: 2000 = 100



Source: American Trucking Association

Crescent Corridor's Market Assessment of Freight Volumes



Truck Diversion Methodology:

The traffic forecast of highway to rail diversions considered 2 key data sources:

- 1.) Global Insight Transearch Database
- 2.) Proprietary data from 4 major U.S. trucking companies

Transearch dry van data identified over 4 million applicable shipments, while the proprietary trucking data was used to define 88 market lanes.

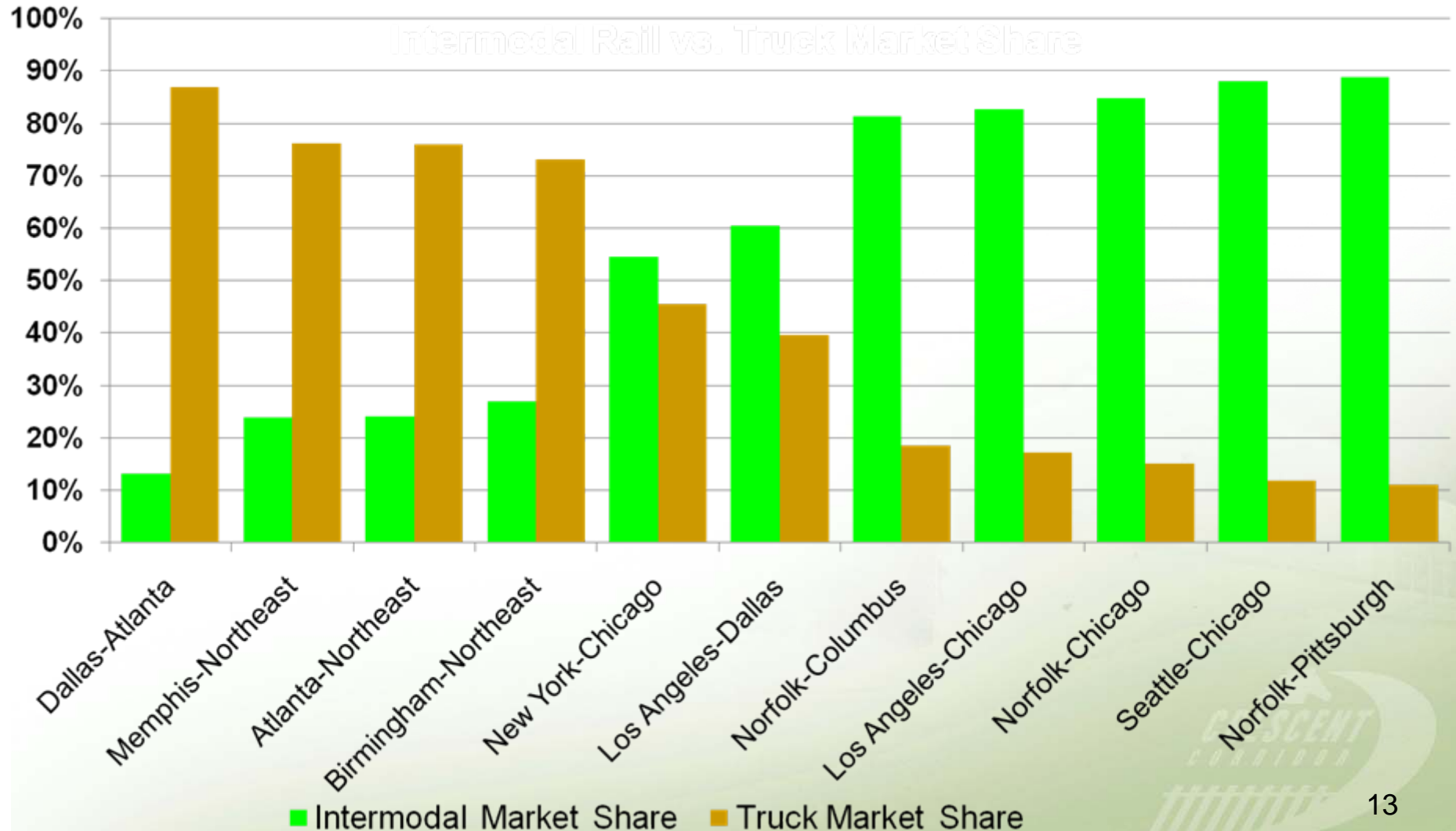
Together, these two data sources represented diversion opportunities in all markets served by the Crescent Corridor.

Truck Diversion Methodology was Built Around 4 Determining Factors

- **Conveyance Type:**
 - Only Dry Van Truck Load Freight
- **Length of Haul:**
 - Only shipments above 500 truck miles considered
 - Length of haul is one determinant in diversion probability
- **Speed:**
 - Higher speed operations produce higher diversion
- **Service Quality:**
 - Better service produces higher diversion



The Crescent Corridor has High Truck Diversion Potential



Growth Plan – Three Phases

Full Development Projections

- 1.3 million annual divertible truckloads
- 28 dedicated Crescent trains
- 1,100 mile average length of haul



- Phase I Terminals
- Phase II Terminals
- Phase III Terminal

- Norfolk Southern Railway and its Railroad Operating Subsidiaries
- ⋯ NS Trackage & Haulage Rights
- Crescent Corridor

Growth Plan – First Phase

2012 Projections – Phase I

- 460,000 loads
- 12 trains
- 1,100 mile average length of haul



- Phase 1 New Terminals
- Phase 1 Expansions
- Phase 1 Existing Capacity

Northern Crescent Intermodal Terminals

Harrisburg Intermodal Facility:
New Crescent Corridor
Loads - 65K
Total Lifts - 432K

Beth Intermodal:
New Crescent Corridor
Loads - 101K
Total Lifts - 181K

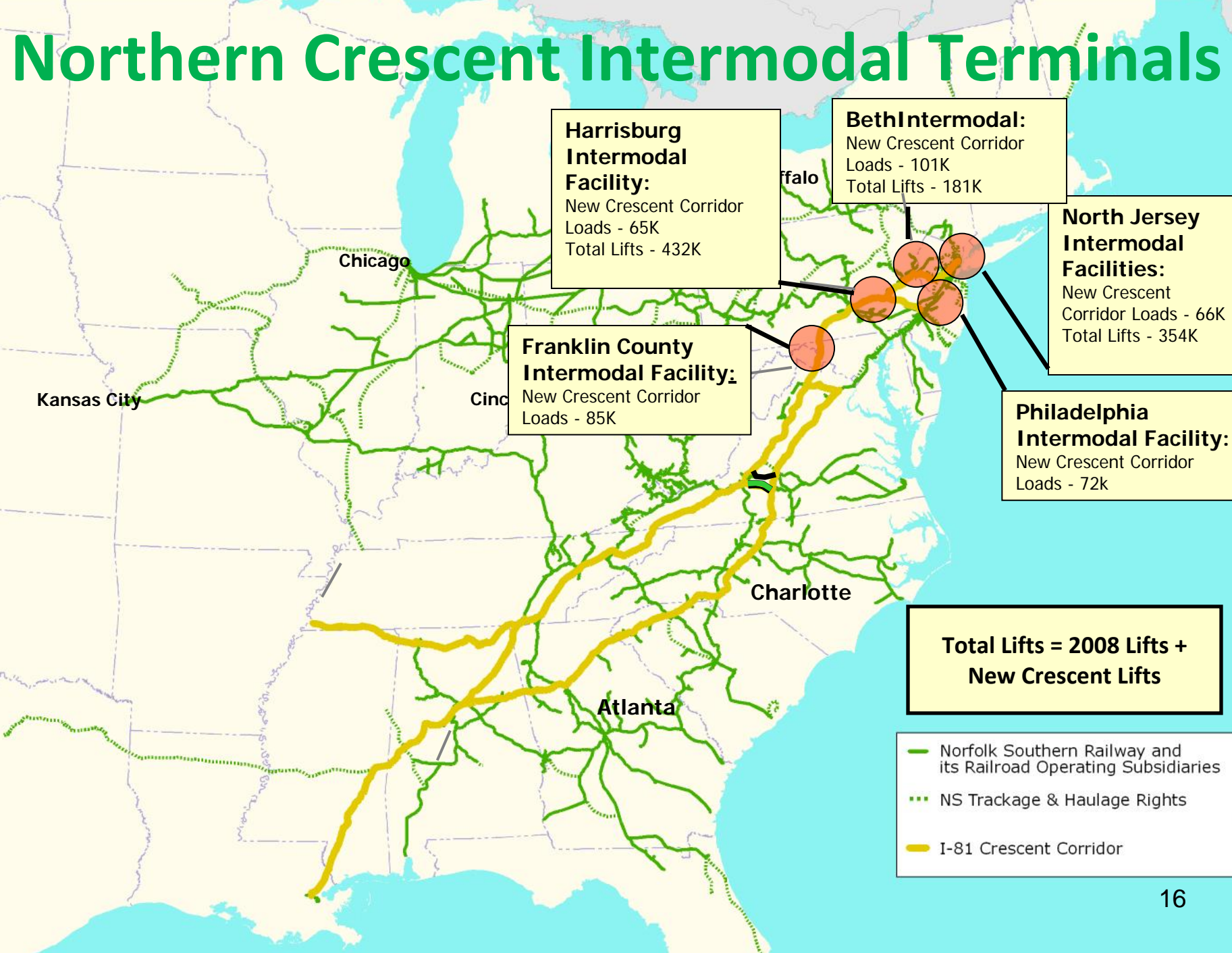
North Jersey Intermodal Facilities:
New Crescent Corridor
Corridor Loads - 66K
Total Lifts - 354K

Franklin County Intermodal Facility:
New Crescent Corridor
Loads - 85K

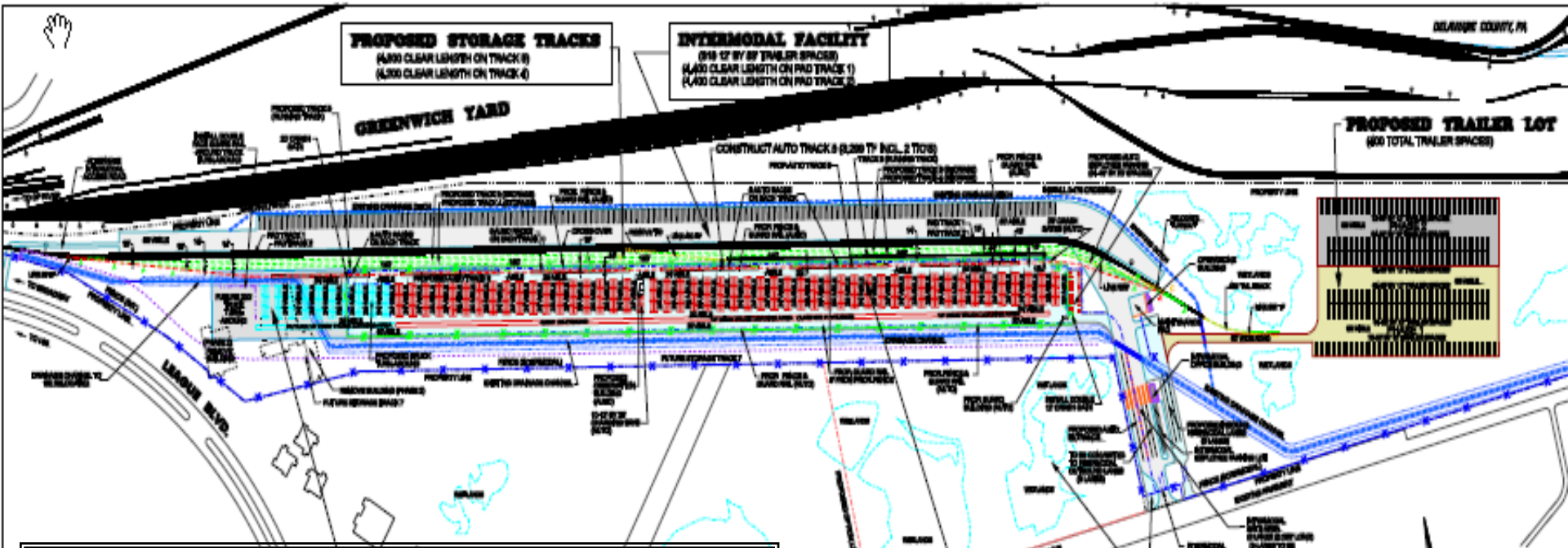
Philadelphia Intermodal Facility:
New Crescent Corridor
Loads - 72K

**Total Lifts = 2008 Lifts +
New Crescent Lifts**

- Norfolk Southern Railway and its Railroad Operating Subsidiaries
- ... NS Trackage & Haulage Rights
- I-81 Crescent Corridor



Philadelphia Navy Yard Intermodal Facility



Phase 1:

- 1 train inbound and 1 train outbound daily
- 8,600' pad track (2 tracks)
- Use reachstackers to reach 2nd track
- 700 parking spaces
- 3 storage tracks
- \$11 million addition to existing terminal
- 72,000 new Crescent lifts

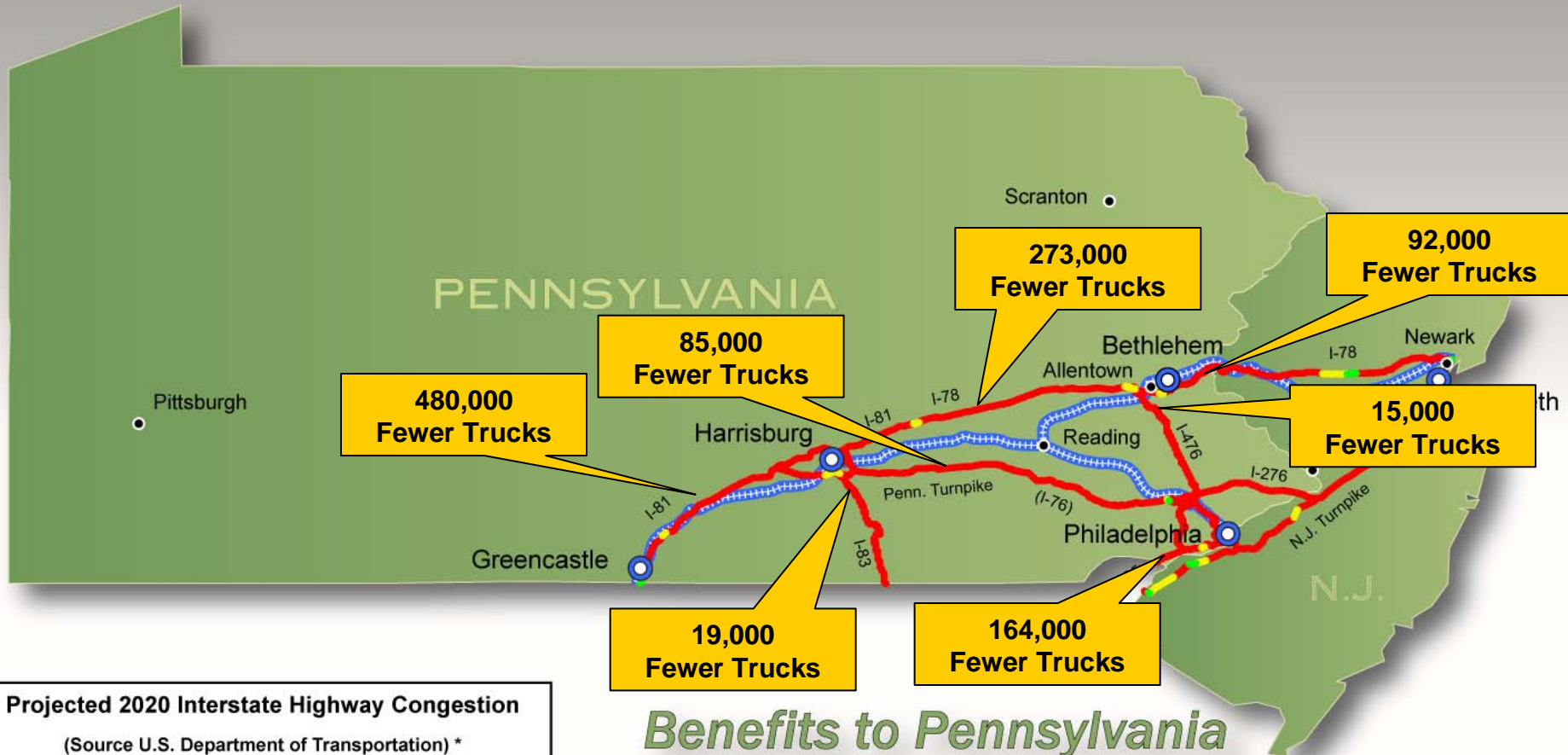
SUMMARY OF TRACK CAPACITIES

TRACK	CLEAR LENGTH OR CAPACITY	TO BE CONSTRUCTED
TRK 1	4,800'	EXISTING, 110 FTDS
TRK 2	4,800'	EXIST' FACIL, 210 FTDS
TRK 3 (STORAGE)	4,800'	EXIST' FACIL, 110 FTDS
TRK 4 (STORAGE)	4,800'	EXIST' FACIL, 110 FTDS
PROPOSED AUTO RAMP	20 TRUCK LOADING SPACES (16' BY 16' SPACES)	EXIST' FACIL, 110 FTDS
TRK 5	4,800'	EXIST' FACIL, 110 FTDS

NOTES: FENCE TO BE INSTALLED ALONG THE PERIMETER OF FUTURE AUTO RAMP FACILITY IF INSIDE PROPOSED END OF PAVEMENT.
GUARD RAIL TO BE INSTALLED IF INSIDE OF FENCE FOR AUTO RAMP FACILITY.

PRELIMINARY PLAN
TO BE USED FOR STUDY PURPOSE ONLY
SUBJECT TO SURVEY
DRAWING BASED ON DMJM & HARRIS DRAWING DATED DEC, 1999

Clean, Green Relief for Congested Roads



Projected 2020 Interstate Highway Congestion

(Source U.S. Department of Transportation) *

- Not Congested (LOS A, B)
- Approaching Congestion (LOS C)
- Congested (LOS D, E, F)
- ⋯ Norfolk Southern Crescent Corridor
- ⊙ Crescent Corridor Terminals

* The DOT estimates that congestion will increase significantly by 2035.
Not all interstate highways or rail lines shown

Benefits to Pennsylvania

690,000
10 Million
110,000 Tons
\$5 Million
\$44 Million
\$9 Million
\$155 Million
\$222 Million

Annual Trucks Diverted
Gallons of Fuel Saved
Reduced Tons of CO₂
Pavement Savings
Congestion Savings
Safety Savings
Logistics Savings
Total Annual Public Benefits

Note: Trucks passing through Harrisburg and Bethlehem are counted twice

Clean, Green Relief for Congested Roads

Projected 2020 Interstate Highway Congestion
 (Source U.S. Department of Transportation) *

- Not Congested (LOS A, B)
- Approaching Congestion (LOS C)
- Congested (LOS D, E, F)
- - - Norfolk Southern Crescent Corridor
- Crescent Corridor Terminals

* The DOT estimates that congestion will increase significantly by 2035.
 Not all interstate highways or rail lines shown



Benefits to New Jersey

168,000	Annual Trucks Diverted
2.3 Million	Gallons of Fuel Saved
26,000 Tons	Reduced Tons of CO2
\$1.25 Million	Pavement Savings
\$14 Million	Congestion Savings
\$2 Million	Safety Savings
\$61 Million	Logistics Savings
\$80 Million	Total Annual Public Benefits

*Public benefits derived from Cambridge Systematics analysis

Clean, Green Relief for Congested Roads



Projected 2020 Interstate Highway Congestion
 (Source U.S. Department of Transportation) *

- Not Congested (LOS A, B)
- Approaching Congestion (LOS C)
- Congested (LOS D, E, F)
- - - Norfolk Southern Crescent Corridor

* The DOT estimates that congestion will increase significantly by 2035.
 Not all interstate highways or rail lines shown

Benefits to Delaware

211,000
 547,000 Gallons
 6,000 Tons
 \$3.7 Million
 \$474,000

Annual Trucks Diverted to Rail
Fuel Saved per Year
CO₂ Reduction per Year
Annual Congestion Savings
Cost of Accidents Avoided

Crescent's Economic Impact on Pennsylvania by 2030

Annual Economic Impact at 2030*

NSRC Intermodal Facilities Only	\$0.132 Billion
At Risk and Benefited Industrial Expansions	<u>\$1.256 Billion</u>
Total	\$1.388 Billion

Cumulative Economic Impact 2009 – 2030*

Intermodal Facilities Only	\$3.017 Billion
At Risk and Benefited Industrial Expansions	<u>\$17.484 Billion</u>
Total	\$20.501 Billion

Employment Impact of NSRC Intermodal at 2030

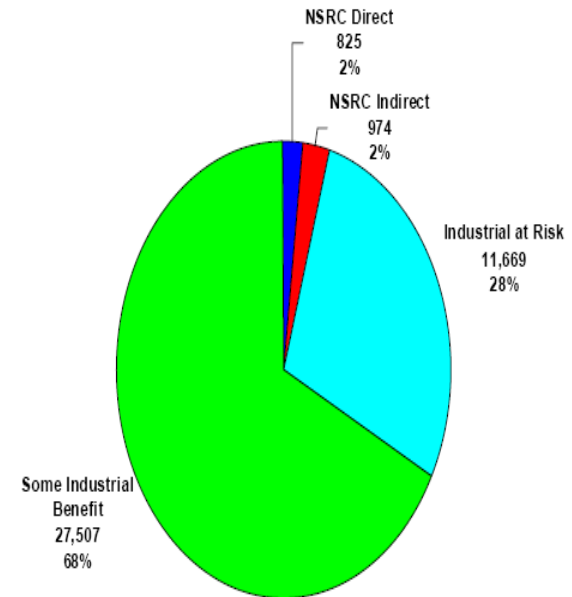
	<i>Direct</i>	<i>Indirect</i>	<i>Total</i>
NSRC Intermodal Facilities Only	825	974	1,799
At Risk and Benefited Industrial Expansions	<u>14,506</u>	<u>24,670</u>	<u>39,176</u>
Total (Exclusive of Construction)	15,331	25,644	40,975

Annual Payroll by 2030* in Millions

	<i>Direct</i>	<i>Indirect</i>	<i>Total</i>
NSRC Intermodal Facilities Only	\$41.2	\$29.2	\$70.4
At Risk and Benefited Industrial Expansions	<u>\$435.2</u>	<u>\$740.1</u>	<u>\$1,175.3</u>
Total (Exclusive of Construction)	\$476.4	\$769.3	\$1,245.7

*In Constant 2009 Dollars

Norfolk Southern Railway Company's Crescent Corridor Phase I Pennsylvania Employment at Full Development at 2030 40,975 Jobs



*Economic impact analysis performed by Insight Research Corporation



Philadelphia Intermodal Facility's Economic Impact by 2030

Annual Economic Impact at 2030*

NSRC Philly Navy Yard Intermodal Only	\$0.02 Billion
At Risk and Benefited Industrial Expansions	<u>\$1.04 Billion</u>
Total	\$1.06 Billion

Cumulative Economic Impact 2009 – 2030*

Intermodal Facility Only	\$0.34 Billion
At Risk and Benefited Industrial Expansions	<u>\$13.99 Billion</u>
Total	\$14.32 Billion

Employment Impact of NSRC Intermodal at 2030

	<i>Direct</i>	<i>Indirect</i>	<i>Total</i>
Proposed Intermodal	103	122	225
<u>At Risk & Benefited Industrial</u>	<u>12,785</u>	<u>19,760</u>	<u>32,545</u>
Total (Exclusive of Construction)	12,888	19,882	32,770

Annual Payroll by 2030* in Millions

	<i>Direct</i>	<i>Indirect</i>	<i>Total</i>
Proposed Intermodal	\$5.2	\$3.6	\$8.8
<u>At Risk & Benefited Industrial</u>	<u>\$360.0</u>	<u>\$592.7</u>	<u>\$952.7</u>
Total (Exclusive of Construction)	\$365.2	\$596.3	\$961.5

*In Constant 2009 Dollars

Philadelphia Intermodal Facility

New Industrial Developments by 2020 in the New Jersey, Delaware, and Maryland Service Areas

	At-Risk 14%	Potentially-Benefited 33%
Industrial Expansions	1.1 million square feet	2.7 million square feet
Construction-Related Capital Investments	\$50 million	\$118 million
Construction Workers	501	1,181
Annual Employment at 2020	325	767
Estimated Annual Payroll at 2020	\$9.7 million	\$23 million

*Economic impact analysis performed by Insight Research Corporation of Dallas, TX.

Crescent Represents Significant Potential

- Long haul intermodal services along I-20, I-40, I-59, I-75, I-78, I-81, I-85, and I-95. Corridors are largely undeveloped for intermodal and there are historic and commercial reasons for this.
- Market share is currently very low for rail intermodal.
- Significant highway congestion on portions of these routes, and a high proportion generated from freight.
- Existing trucker interest in developing services in this corridor; NS will also explore carload opportunities.
- **Well over one million divertible truckloads in this corridor.**
 - **Requires NS to be competitive with single-driver transit times and with high reliability/consistency in service.**





Tracking Progress...

The Future Needs Us.com

