The Eastern Corridor

Oasis Rail Transit

Diesel Multiple Unit (DMU) Fact Sheet

February 2016

More information about rail vehicles is available in the *Oasis Rail Conceptual Alternative Solutions Report, Feb. 8, 2016*, now posted on the Oasis Rail Transit Project Documents page of the Eastern Corridor website: **www.EasternCorridor.org**

Approximately 17 miles in length, the proposed Oasis Rail Transit corridor extends between downtown Cincinnati and the City of Milford and would initially be served by seven stations. In addition to providing a new rail-based regional transportation option serving Eastern Corridor communities, the Oasis line would also offer new opportunities for community enhancement and development.

PREFERRED RAIL VEHICLE TYPE: DMU

One of the most prominent features considered for the Oasis line is the actual rail vehicle (or train) that would transport passengers to their destinations. Early studies completed for the Eastern Corridor Program recommended that self-propelled passenger coaches be considered as the preferred rail vehicle type. Further studies explored in more detail the technologies available for the line including:

- Diesel-powered locomotives pulling single or bi-level passenger coaches
- Electrically-powered streetcar-type vehicles
- Electrically-powered light rail vehicles call Electric Multiple Units (EMU/LRT)
- Diesel-powered passenger cars (Diesel Multiple Units or DMUs)

The results of those studies confirmed that diesel-powered passenger cars, or DMUs, would be the most appropriate technology for the Oasis Rail Transit line. Features of DMUs that made it stand out beyond other rail vehicle choices included:

- DMUs are flexible in terms of operational capabilities and can efficiently serve the 17-mile Oasis corridor – which is too short for traditional “push-pull” locomotives and coach cars but generally too long for streetcar-type vehicles – and efficiently manage the spacing between stations.
- DMUs are very responsive. They can accelerate and brake quickly which results in attractive travel times between stations.
- DMUs are self-propelled and the technology that powers the train is highly efficient and low-emission. No overhead electrical system is required which reduces initial capital costs.

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- DMUs are comfortable, quiet, attractive and proven rail passenger cars that are used by many progressively-minded cities in the U.S. and throughout the world.
- DMUs are self-propelled, and can operate in trains or in single units.
- DMUs are designed to share tracks with freight trains, potentially reducing the capital investment necessary to implement new passenger rail service.

Other factors considered include vehicle costs; operating and maintenance costs; flexibility to expand service; and likelihood of community/customer acceptance.

Made by Stadler, the rail vehicle above is an FRA Alternatively Compliant train.

Made by Nippon Sharyo, the rail vehicle below is FRA Compliant.

FRA COMPLIANCE

As proposed, portions of the Oasis Rail Transit line could share tracks already in place and in use by freight trains. The Federal Rail Administration (FRA) requires that trains sharing tracks with freight operations either be FRA Compliant or FRA Alternatively Compliant vehicles.

FRA Alternatively Compliant Vehicles

- Require a waiver from FRA in order to operate on tracks shared with freight trains
- Feature a lighter, European design
- Are experiencing a surge in US demand

FRA Compliant Vehicles

- Are already approved to operate on tracks shared with freight trains, without restrictions
- Tend to be somewhat bigger and heavier than Alternatively-Compliant vehicles
- Feature higher floors which may require taller, more expensive station platforms

Although both of these vehicle types address the needs of the Oasis line and offer the features desired, **the Eastern Corridor Program Partners and the public have identified the lighter-weight, FRA Alternatively Compliant DMU as the preferred rail vehicle type for the Oasis Rail Transit line.**

DMU General Size Comparison