# Mobility Data Interoperability Principles (MDIP) Factsheet

N•CATT

Interoperability means different technologies can easily communicate and share information using common formats[1]. This standardization reduces lifecycle costs making it easier to implement technology to improve your operations, and rider experience. You may not always recognize it, but interoperability is everywhere. The transition to USB-C charging cables is a recent example:

CIRCA 2015 — CIRCA 2025
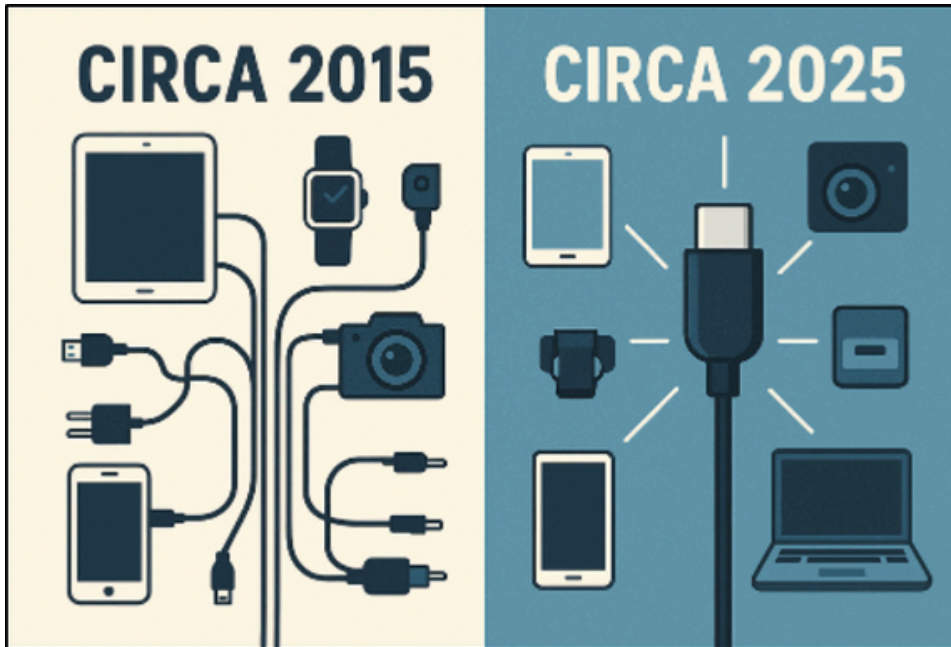
Around 2015, every technology device you owned had a different charger cable; you needed a specific cable for each device in order for it to work. This made it difficult – and expensive – to replace a cord, not to mention the annoyance of having so many. Today, all new devices likely use a USB-C cable cord, which you can buy almost anywhere for much less money.

This industry standard came to be, in part, from government regulations that prompted the industry to find a common solution. The Mobility Data Interoperability Principles (MDIP) play a similar role for transit technology by promoting integration and ease of access – just like the USB-C charging cable has for our devices.

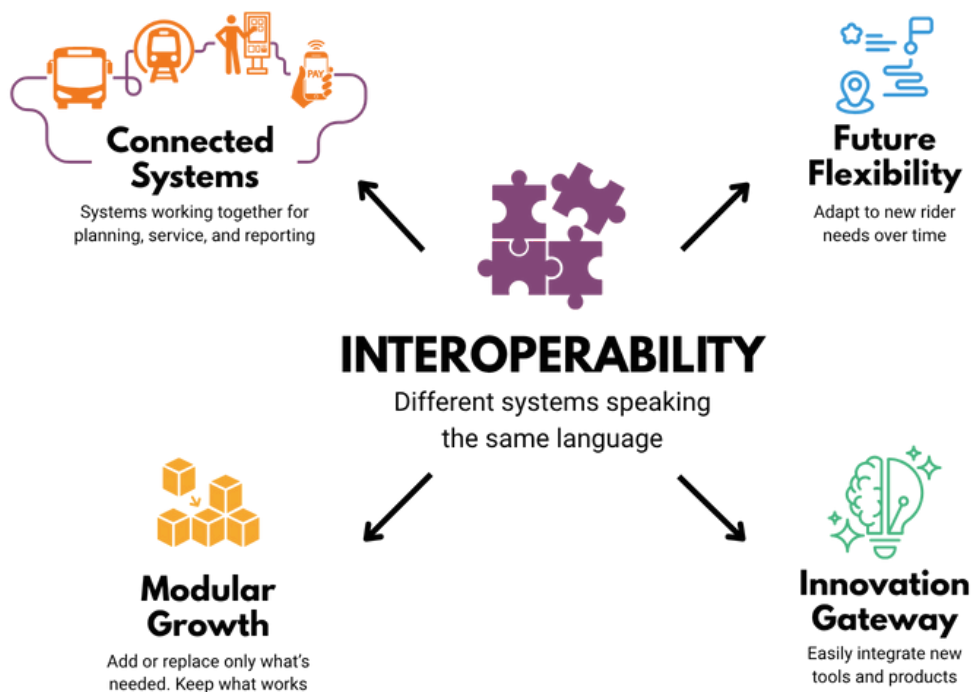## What are the Mobility Data Interoperability Principles (MDIP)?

MDIP is a set of guidelines to improve data interoperability in the mobility sector, including public transportation. These principles set clear goals for the transit industry to adopt open standards for non-sensitive mobility data and to keep pace with mobility innovation to meet rider expectations. Mobility data is both the data that travelers use to plan and manage their journeys and the data that transportation providers use to plan and manage their services. The principles are:

1. All systems creating, modifying, or consuming mobility data should be <u>interoperable</u>.
2. Interoperability should be achieved through the development, adoption, and widespread implementation of open standards that support the efficient exchange and portability of <u>mobility data</u>.

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1 https://www.interoperablemobility.org/

3. Transit agencies and other <u>mobility service providers</u> should have access to tools that present high-quality mobility data accessibly, easily, and in real time to assist travelers in meeting their mobility needs.

4. Transit agencies, other mobility service providers, and travelers should be able to select the transportation technology components that best meet their needs.

5.The public should be empowered by high-quality, well-distributed <u>mobility data</u> to find, access, and utilize excellent mobility options that meet their needs and maintain their privacy.
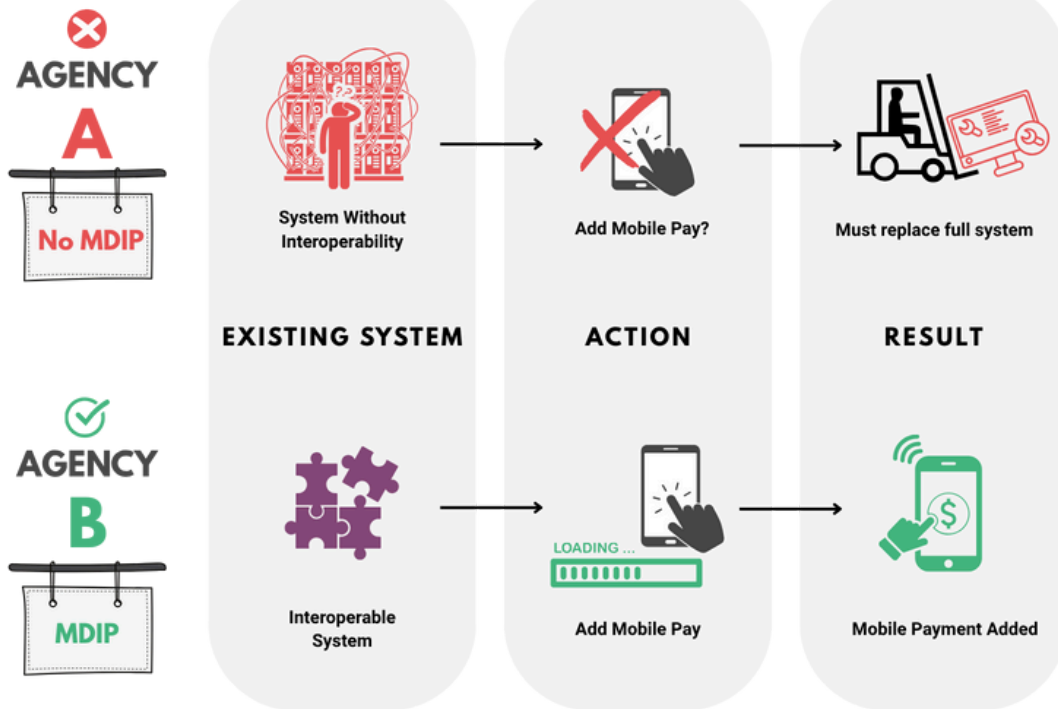
Interoperability in transit

Connected Systems
Systems working together for planning, service, and reporting

Future Flexibility
Adapt to new rider needs over time

INTEROPERABILITY
Different systems speaking the same language

Modular Growth
Add or replace only what's needed. Keep what works

Innovation Gateway
Easily integrate new tools and products
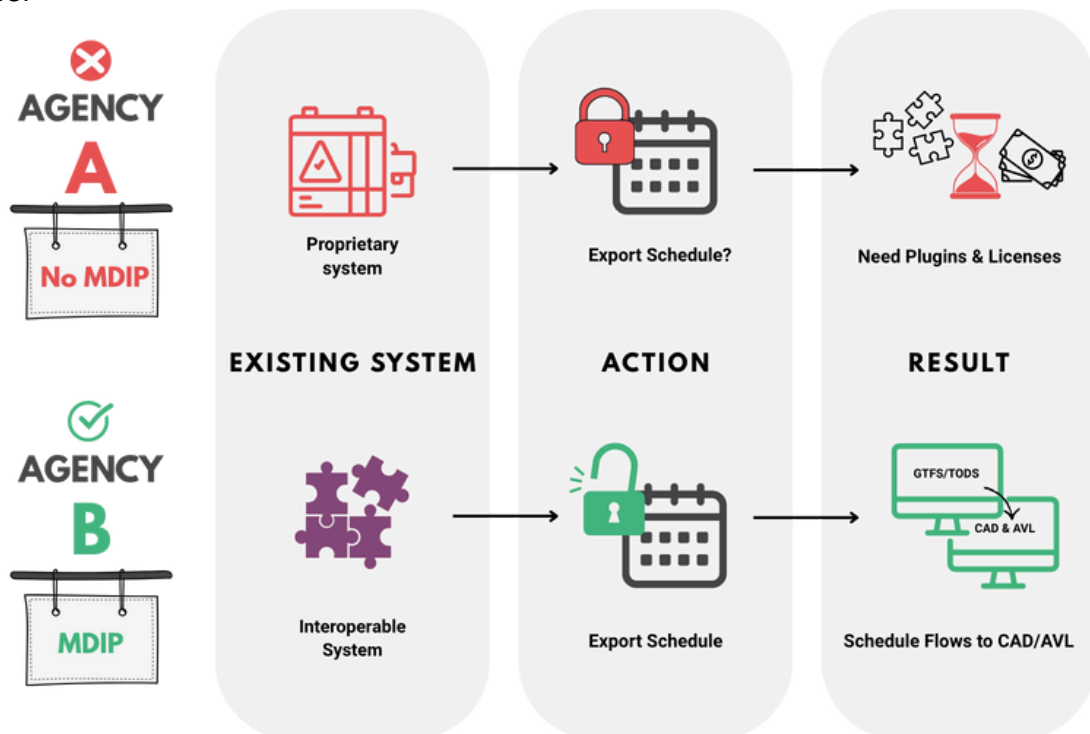
What does this look like in practice?

Example #1: Enabling a phased approach to transit technology

Interoperability allows you to "phase in" technology systems and expand your technology stack over time, rather than all at once. This means you can feel safe making investments today, knowing that they will still be a strong foundation for future additions.

❌ **AGENCY A** — No MDIP

EXISTING SYSTEM	ACTION	RESULT
System Without Interoperability	Add Mobile Pay?	Must replace full system

✓ **AGENCY B** — MDIP

Interoperable System	Add Mobile Pay — LOADING ...	Mobile Payment Added

Example #2: Reducing unnecessary transit technology "add-ons"

Interoperability allows transit agencies to flexibly adapt to changing technology circumstances, which is particularly useful for smaller agencies who may only need specific features. It can also reduce costly "integration fees" that vendors levy to work with the proprietary format. The integration fees are a costlier version of an adapter you might buy for your charger when you travel outside the United States.

❌ **AGENCY A** — No MDIP

EXISTING SYSTEM	ACTION	RESULT
Proprietary system	Export Schedule?	Need Plugins & Licenses

✓ **AGENCY B** — MDIP

Interoperable System	Export Schedule	Schedule Flows to CAD/AVL — GTFS/TODS, CAD & AVL

Want to learn more?

- Check out our **MDIP Translation Guide** on integrating MDIP principles into your procurement documents and requiring vendor compatibility with other tools.
- Read our **Data Ownership Factsheet** and **Data Ownership Translation Guide** - owning and controlling your agency's data is critical to enabling interoperability.

If you have any questions, reach out to the N-CATT Team at helpdesk@n-catt.org