AI Reading Exercise: Class 5

From Digital to Physical Infrastructure
PLAN A6613: AI and the Future of Cities

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Tool & Process

I used Claude Opus 4.6 with extended thinking via the Antigravity IDE.[1] The AI generated an initial set of findings on the topic "AI managing physical infrastructure." I then directed over 50 iterative corrections, each logged with a timestamp: downloading vendor, government, and independent sources; cross-checking statistics across stakeholders; and rewriting every claim that lacked a citation or relied on a single account. The most productive step was comparing vendor-reported outcomes against city government data, which revealed discrepancies the AI had not flagged and that neither source had an incentive to disclose.

Key Findings

The three examples below represent a spectrum, from fully autonomous operation, to advisory monitoring, to a partnership not yet deployed, revealing how far apart "AI-managed infrastructure" cases actually are.

1. Curb Space: Automotus in Pittsburgh. Pittsburgh's Smart Loading Zone program is the closest I found to AI that actively manages a city asset. The city deployed Automotus computer vision cameras across 75 commercial loading zones, with cameras on streetlight poles reading license plates, enforcing tiered time limits, and automating payment without meters. Funded by a \$3.8 million DOE grant (Lazo, 2021) and SaaS revenue from automated payments, what makes this case distinct is the closed operational loop: the AI observes, decides, and acts without a human in between. Yet even here, the numbers do not agree. Automotus claims 40% higher zone turnover and 95% less double-parking, while the City of Pittsburgh's own pilot data reports a 70% turnover increase and only a 40% decrease in double-parking (Automotus, 2023; City of Pittsburgh DOMI, 2024). Both parties have reason to frame results favorably, which means independent verification is essential even for a system that is already operational.

2. Traffic Signals: Flow Labs in North Carolina. North Carolina's statewide traffic signal program shows what happens when AI monitors but does not control. NCDOT deployed Flow Labs AI across more than 2,500 intersections in July 2025, the largest such deployment in the United States (Nyczepir, 2024). The system ingests connected vehicle GPS data to identify signal timing problems without field studies or new hardware. Funded as a SaaS contract in existing operations budgets, the program scales without capital appropriation. Yet Flow Labs' own documentation clarifies that the system only recommends changes; a human engineer makes the final call (Flow Labs, 2025). Aaron Moody, NCDOT's assistant director of communications, confirmed that the platform "supports data-informed decisions while maintaining oversight by engineering staff" (Raths, 2025).

3. Power Grid: Google Tapestry & PJM. Google X's Tapestry partnership with PJM Interconnection is the most ambitious of the three, but also the least real. Tapestry uses DeepMind AI to model the grid topology of PJM's network, which serves 67 million people across 13 states and the District of Columbia (PJM, 2025), aiming to accelerate the years-long interconnection queue for new renewables. Unlike the first two examples, Tapestry has not yet been deployed: it is a multi-year development partnership where Google funds AI development and PJM provides grid data (X, 2025). Faster interconnection directly serves Google's own data center energy needs, and as Berreby (2024) documents in Yale Environment 360, AI data centers are themselves a major driver of the electricity demand straining the grid; Google is partly solving a problem its own infrastructure creates.

Verification

Across all three cases the AI made the same category of error: it presented each system at face value without interrogating stakeholder interests, autonomy levels, or deployment status. For Automotus, it failed to flag the vendor-versus-city statistical discrepancy described above, and it conflated parking management with commercial loading management, a distinction that matters for how planners allocate curb space. For Flow Labs, it described the system as "controlling" signals when three independent sources confirm it only recommends changes; the human-in-the-loop distinction was entirely absent from the AI's output. For Tapestry, it treated a pre-deployment research partnership as comparable to the two operational systems and omitted Google's conflict of interest as both grid-AI developer and grid-electricity consumer.

[1] Verbatim prompt log, downloaded sources, annotations, and a claim-by-claim verification audit are archived at https://github.com/dhardestylewis/plan-a6613-ai-reading-class-3/tree/main/week5.

Critical Reflection

The AI was a useful starting point for assembling an inventory of who is doing what, but it required extensive babysitting (over 50 iterative corrections) to reach a product a planner could trust. Left unchecked, a reader would have concluded that all three systems actively control city assets, when in fact only one does, one merely advises, and one does not yet exist. The harder questions, how real is this, whose numbers are these, and who benefits, were invisible to the AI and required cross-checking every statistic against multiple stakeholders' accounts.

References

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[3] City of Pittsburgh, Department of Mobility and Infrastructure. (2024). Smart loading zones. City of Pittsburgh. https://pittsburghpa.gov/domi/smart-loading-zones

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[5] Lazo, A. (2021, August 12). Pittsburgh gets $3.8 million from feds for smart loading zones. Pittsburgh Post-Gazette. https://www.post-gazette.com/business/development/2021/08/12/

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[7] PJM Interconnection. (2025). PJM, Google announce multi-year AI collaboration [Press release]. https://www.pjm.com/about-pjm/newsroom

[8] Raths, D. (2025, January 14). North Carolina taps AI to help manage traffic signals statewide. Government Technology. https://www.govtech.com/transportation/north-carolina-taps-ai-to-help-manage-traffic-signals-statewide

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