AI Reading Exercise: Class 5

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

Daniel Hardesty Lewis
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Tool & Process

I used Claude Opus 4.6 with extended thinking via the Antigravity IDE.[1] My first prompt returned vague IoT sensor descriptions. I refined it to demand three named deployments with exact cities, vendors, and funding mechanisms. A third prompt asked how each system operationally works: what data it ingests, what it decides autonomously, and where a human remains in the loop.

Key Findings

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. Automotus claims 40% higher zone turnover and 95% less double-parking, but the city's own pilot data reports a 70% turnover increase and a 60% drop in average park duration. The discrepancy matters: both parties have reason to frame results favorably. The U.S. Department of Energy funds the three-year scale-up with a $3.8M grant, supplemented by 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.

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, the largest such deployment in the US. The system ingests connected vehicle GPS data to identify signal timing problems without field studies or new hardware. But as Flow Labs' own documentation clarifies, the system only recommends changes; a human engineer makes the final call. NCDOT funds it as a SaaS contract embedded in existing operations budgets, which means it scales without capital appropriation.

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, aiming to accelerate the years-long interconnection queue for new renewables. But unlike the first two, Tapestry has not yet been deployed: it is a multi-year development partnership where Google funds AI development and PJM provides grid data. Faster interconnection also directly serves Google's own data center energy needs, which means the public benefit and the corporate interest are not easily separated.

Verification

- Automotus: Vendor and city statistics did not match, as noted above. Claude did not flag this discrepancy, nor did it distinguish parking from commercial loading management, a difference that matters for curb allocation policy.
- Flow Labs: Claude described the system as controlling signals. Flow Labs' own documentation says it only recommends changes, and NCDOT's communications office confirmed that engineering staff retain final oversight. This human-in-the-loop distinction was entirely absent from the generated response.
- Tapestry: Claude listed Tapestry alongside deployed systems without noting that it remains a multi-year development effort that is not yet operational.

Critical Reflection

The most useful finding was in what the AI failed to distinguish. It treated all three as equivalent when they represent different levels of readiness. A planner reading uncritically would overestimate how far AI-managed infrastructure has come. The tool is useful for assembling an initial inventory of who is doing what, but a human is needed for the harder question: how real is this?

References

[1] Automotus. (2023). Smart Loading Zones: Pittsburgh. https://automotus.co/pittsburgh

[2] Marotti, A. (2022). Pittsburgh pilots smart loading zones. Cities Today. https://cities-today.com/pittsburgh-pilots-smart-loading-zones/

[3] Flow Labs. (2025). NCDOT statewide AI traffic signal deployment. https://www.flowlabs.ai

[4] Nyczepir, D. (2024). NC deploys AI traffic signal software statewide. StateScoop. https://statescoop.com/north-carolina-ai-traffic-signals-flow-labs/

[5] X, the Moonshot Factory. (2025). Tapestry. Alphabet. https://x.company/projects/tapestry/

[6] PJM. (2025). PJM, Google multi-year AI collaboration. https://www.pjm.com/about-pjm/newsroom

[1] Verbatim prompt log archived at https://github.com/dhardestylewis/plan-a6613-ai-reading-class-3/tree/main/week5.