TOWN OF COCHRANE X URBAN SYSTEMS MOBILITY DATA CASE COMPETITION 2025

Diagnostic Analysis & Strategic Revitalization Plan

From Weekday Utility to Weekend Destination

TWIN VECTORS

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EXECUTIVE SUMMARY

Downtown Cochrane: From Weekday Utility to Weekend Destination

The Current State: Downtown functions as a highly efficient weekday service hub but experiences a sharp decline in activity intensity on weekends

The Core Problem: Residents leave the downtown core "leakage" fir key leisure categories like fitness, dining, and apparel, resulting in "dead" zones

The Opportunity: Data indicates meaningful weekend presence (people) that fails to convert into engagement (duration/speed)

The Goal: Transform downtown from a place for "touch-and-go" errands into a destination for lingering and leisure

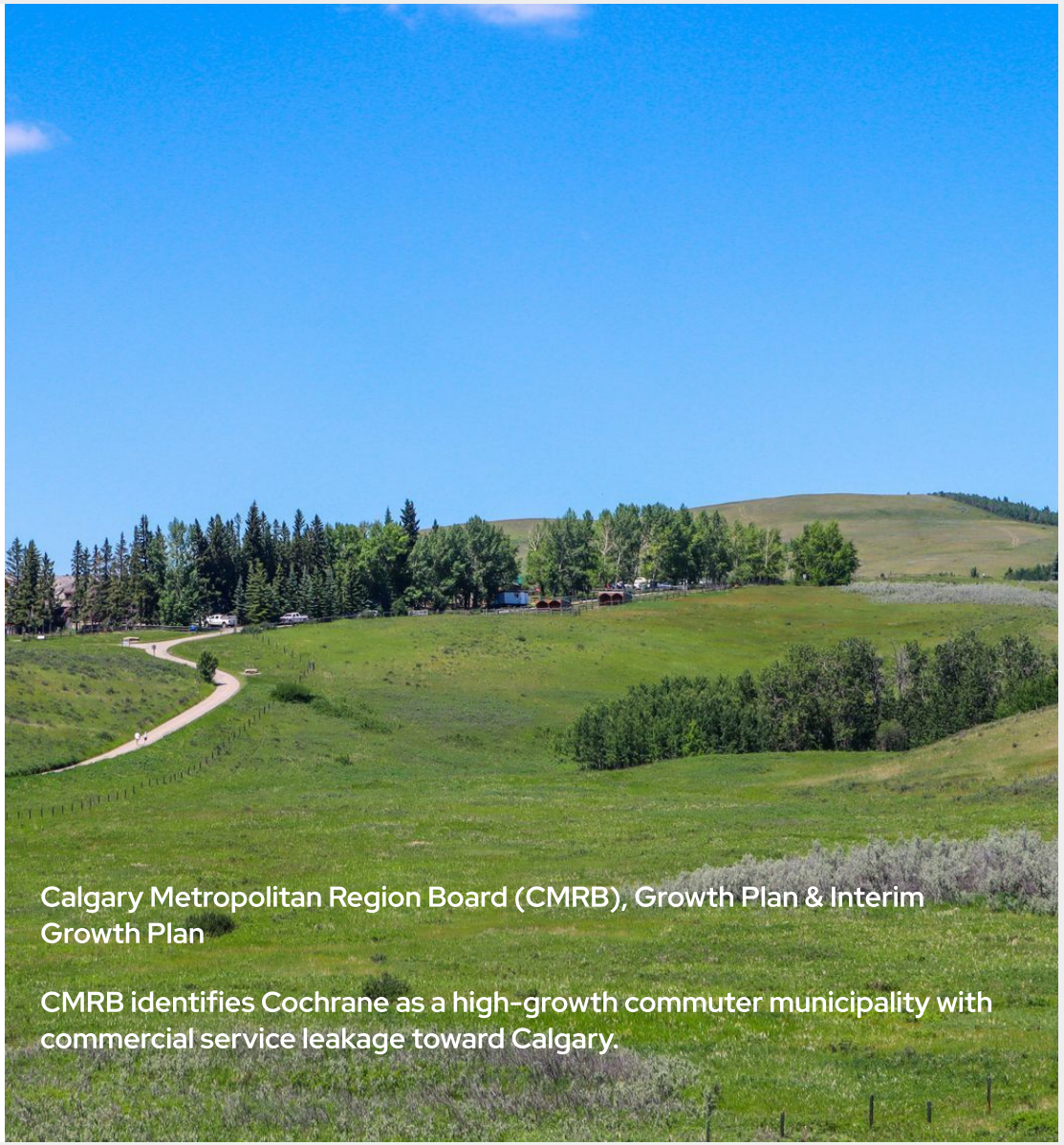
PROBLEM IDENTIFICATION

So What?

The data confirms downtown's utility but highlights a crucial "engagement gap" on weekends, necessitating a strategic shift from service-oriented functions to experience-driven offering to capture lost economic potential and enhance community vitality

Analysis Structure

1. **Temporal Analysis (When activity happens)**
2. **Leakage Analysis (Why people leave)**
3. **Strategic Recommendations (How to fix it)**



Calgary Metropolitan Region Board (CMRB), Growth Plan & Interim Growth Plan

CMRB identifies Cochrane as a high-growth commuter municipality with commercial service leakage toward Calgary.

DATA SOURCES & INPUTS

This analysis moves beyond anecdote, triangulating physical movement (Telemetry) with consumer intent (Affinity) to diagnose the root causes of economic activity

Mobile Telemetry

Anonymized PIN pings and unique device counts to track movement intensity and reach within the downtown bounding box

Temporal Segmentation

Analysis of activity breakdown by hour-of-day and day-of-week to isolate the "Weekday vs. Weekend" behaviour gap

Affinity & Leakage

Consumer preference analysis identifying specific outside brands and categories that residents travel elsewhere to visit

Dwell Time Proxies

Estimated duration of stay per device-day to distinguish between efficient errands and destination-style visits

DATA METHODOLOGY

Key Metrics Defined

Total Visits (Signals)

Measures activity intensity. One device can generate many signals

- VS -

Validation & Privacy

Proxies distinct visitors. Counts a phone only once per timeframe

Validation & Privacy

Dwell Proxy Calculation

Time delta between a device's first and last signal in a day. Used to proxy engagement depth

Total Visits (Signals)

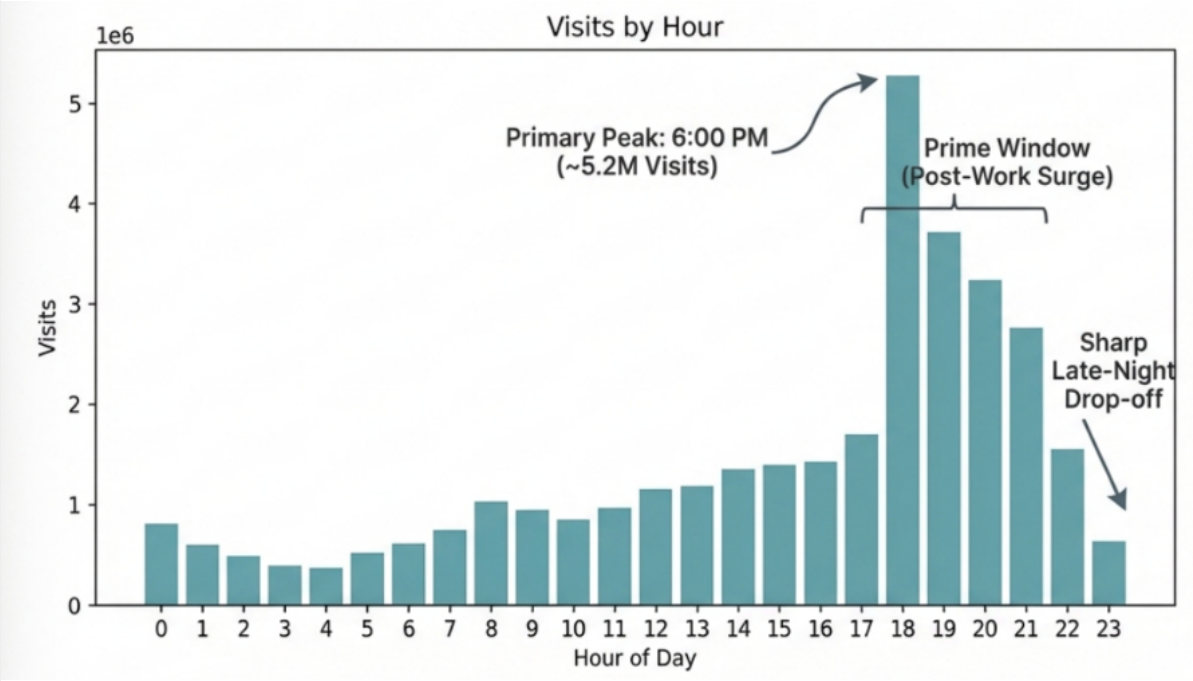
Findings are validated across multiple metrics, when signal volume drops, device counts follow consistent patterns

Privacy Standard

FAll data is anaonymized and aggregated at the Census Block or custom polygon level. No PII is used.

Limitation Note: Data reflects physical presence, not financial transaction values. We measure the "Attention Economy" of the core

ACTIVITY PEAKS IN EARLY EVENING



Key Observations

- Activity builds steadily throughout the day, avoiding the typical "mid-day slump" of pure office districts
- The single largest spike occurs at 18:00 (6 PM) indicating a strong post work capture
- Activity falls off sharply after 9 PM, suggesting a lack of late-night

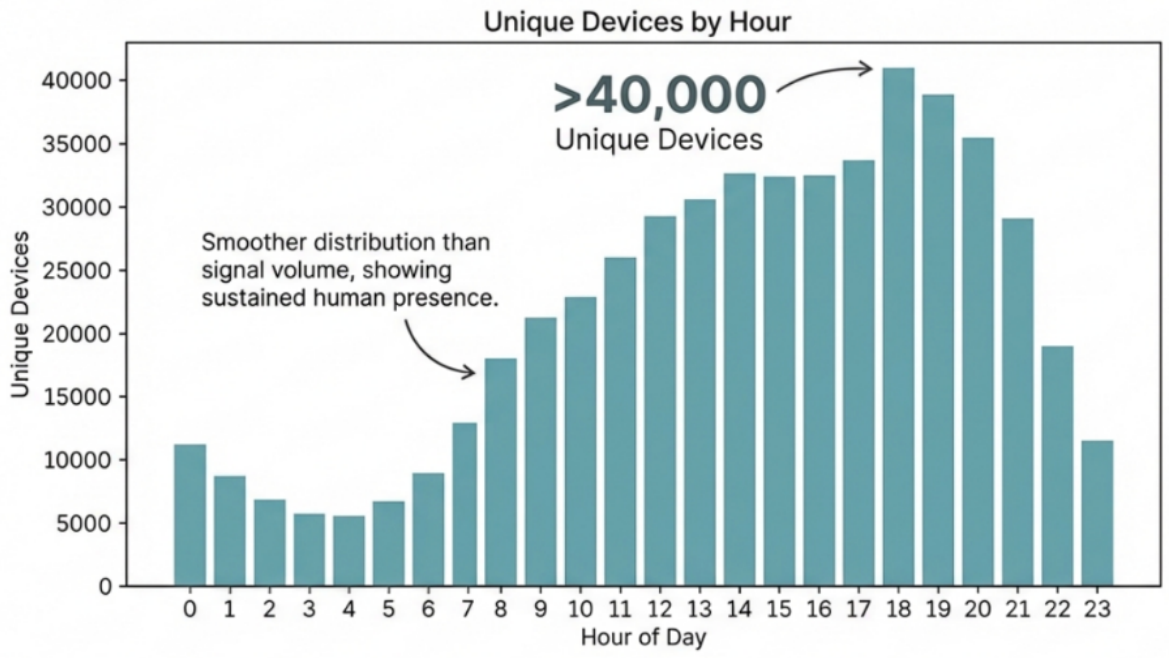
Strategic Implication: Programming and business hours should agressively target the 5 PM - 8 PM window to align with natural attention flow.

Town of Cochrane, Downtown Revitalization Plan & Tri-Site Strategy

Municipal plans emphasize civic clustering and connectivity in the downtown core.

https://www.cochrane.ca/DocumentCenter/View/11756/Downtown-Revitalization-Plan

THE "PEOPLE PEAK" ALIGNS WITH THE "ACTIVITY PEAK"



Roger Brooks International, "20 Ingredients of an Outstanding Downtown"

Early evening (5–8 PM) identified as the critical success window for downtowns.

https://rogerbrooksinternational.com/20-ingredients-of-an-outstanding-downtown/

Key Observations

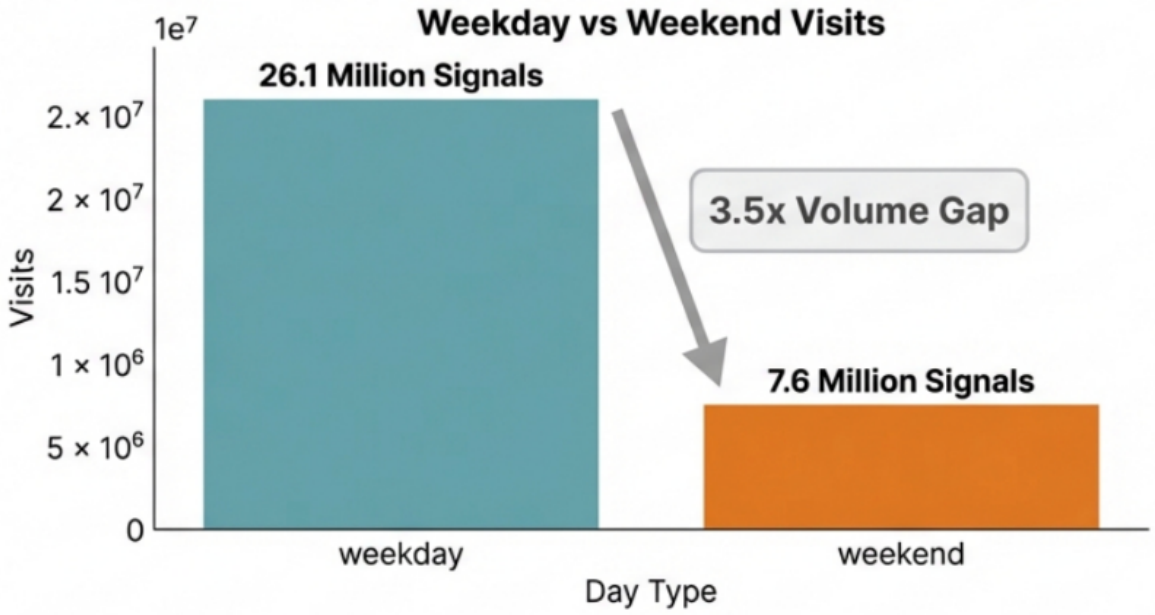
- The count of unique devices mirror the signal volume, confirming the 6 PM spike is not driven by actual people, not just more active devices
- **Over 40,000 unique devices** are detected during the peak hour across the dataset
- This validates the evening rush as a genuine influx of potential customers

Strategic Implication: The 6 PM peak isn't just "noise" it is verified mass of people. The strategy to focus on "after-work" capture is validated by device counts

ACTIVITY VOLUME IS HEAVILY SKEWED TO WEEKDAYS

If we judged solely by activity intensity, we would assume no one is downtown on weekends. We must look deeper to see if *people* are absent, or just quiet

- Weekday activity volume is nearly **3.5x higher** than weekend activity
- This massive disparity categorizes downtown Cochrane primarily as a functional working-week hub
- Based on noise alone, the downtown appears dormant on weekends

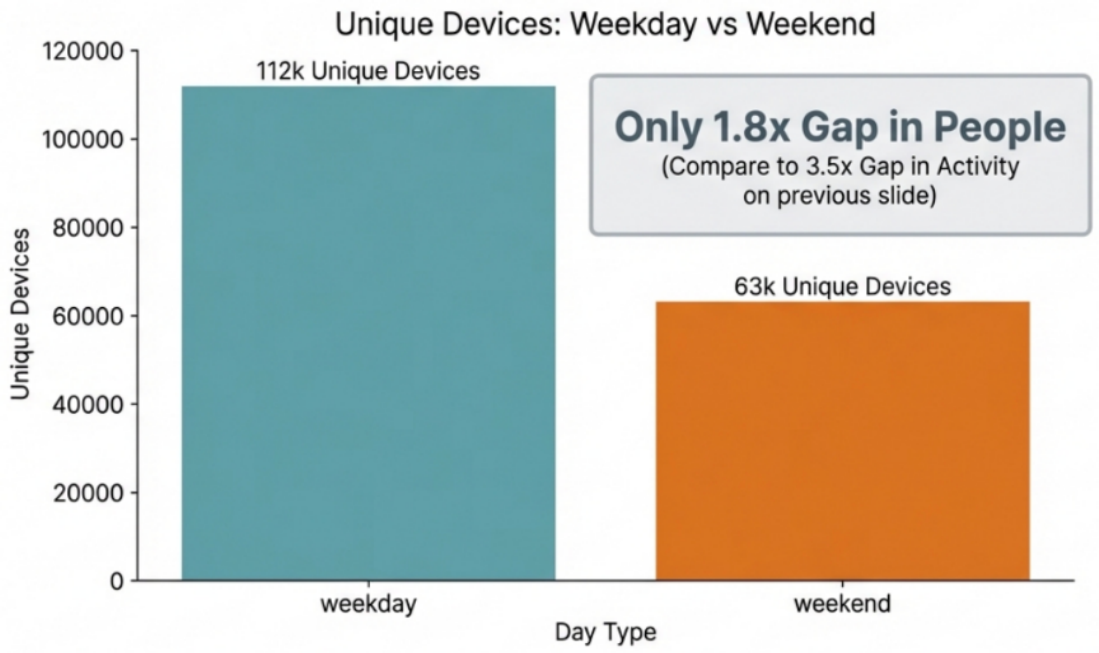


Canadian Urban Institute, State of Main Street

Main streets require anchor uses to sustain weekend and discretionary visitation.

https://canurb.org/research/state-of-main-street/

THE ENGAGEMENT GAP: PEOPLE ARE PRESENT, BUT QUIET



The Critical Nuance:

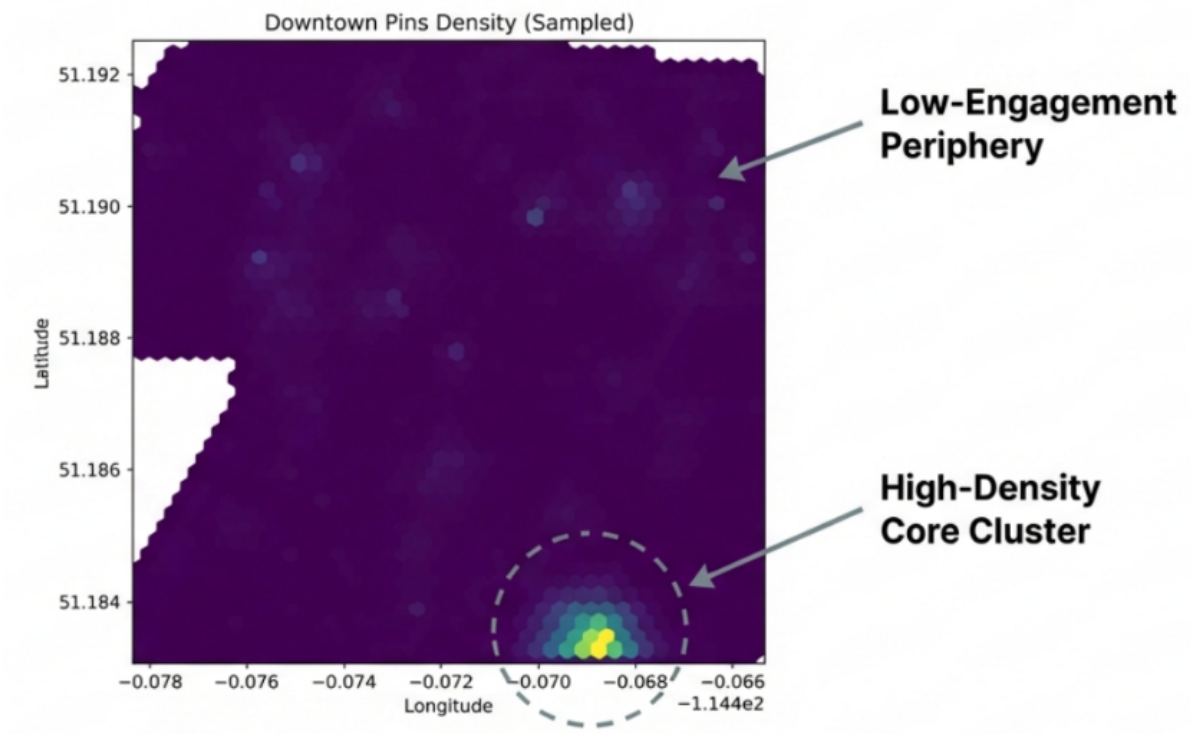
- While signal volume **drops 3.5x** on weekends, the people count only **drops by ~1.8x**
- **Interpretation:** Weekends account for a much larger share of visitors than they do activity
- **The Behaviour:** Weekend visitors are generating few signals per person, indicative of "lighter", shorter, or less interactive trips

The market is not empty on weekends, it is unengaged. The goal is not to attract people from zero, but to deepen the engagement of 63k+ devices already appearing

ACTIVITY CLUSTERS IN A TIGHT CORE

Spatial Analysis:

- Foot traffic is not evenly distributed it forms a high-density "hotspot" in the southeast quadrant
- Peripheral block show significantly lower signal density, indicating a lack of flow through the wider district
- This concentration suggests a walkable core exists but is a disconnected from the wider downtown



Placement Strategy: Interventions (new anchors, events) must be placed within or immediately adjacent to this cluster. Placing them in "dead" zones without connecting corridors is high-risk

ECONOMIC LEAKAGE: WHY RESIDENTS LEAVE

Category	Affinity Ratio (Likelihood to Visit Outside)	Representative Brands Leaked To
Daily Essentials	31.5x	Anderson's Liquor, Calgary Co-op
Apparel	12.7x	Forever 21, Lole
Fitness & Wellness	12.4x	Jazzercise, Fit Body Boot Camp
Casual Dining	12.0x	Smashburger, Fionn MacCool's

Interpretation

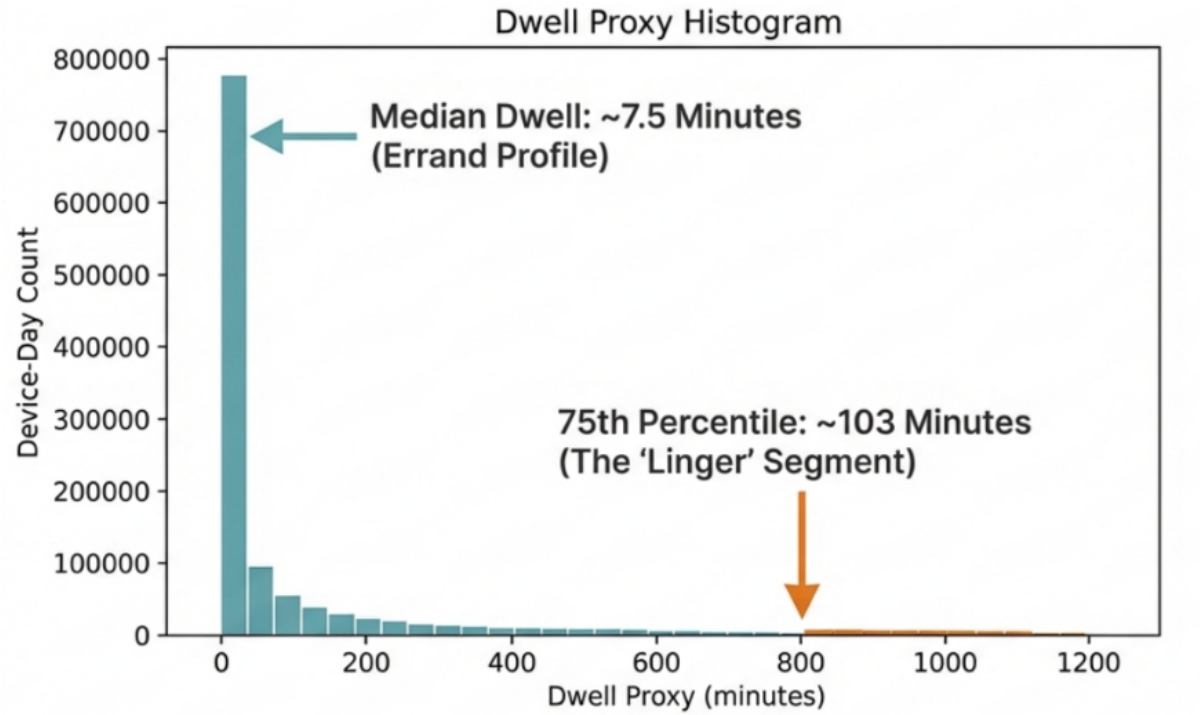
- High affinity rations indicate residents actively travel to outside competitors for those needs.
  - **Essentials**: Residents prefer 'one-stop' hubs
  - **Fitness & Dining**: Critical 'Ancillary' categories that drive dwell time are being serviced outside the core

These 'missing' categories (Gyms, Dining) are exactly what generate recurring, longer-duration visits. We don't need to invent demand we need to repatriate it

Canadian Urban Institute; International Council of Shopping Centers (ICSC)

Anchor tenants generate predictable foot traffic that supports independent retail.

DWELL TIME: A FUNCTIONAL, ERRAND-BASED ECONOMY



Behaviour Profile:

- **Short Stays Dominate:** The histogram is heavily right-skewed the vast majority of visits are short duration (~450 seconds)
- This pattern is consistent with quick pickups, drop-offs, or single-store transactions
- However, the existence of a 'Linger Segment' (top quartile) proves visitors will stay if given a reason

The Objective: To fix the weekend gap, we must shift the median dwell time up by converting 7-minute errands into 60-minute experiences

Pine & Gilmore, "The Experience Economy," Harvard Business Review

Experiences extend dwell time; services compress time.

https://hbr.org/1998/07/welcome-to-the-experience-economy

DIAGNOSIS: A CRISIS OF ANCHORS NOT DEMAND

The Time is Right

Temporal peak is at **6 PM**. Weekends show **63k+** distinct devices present

The Content is Missing

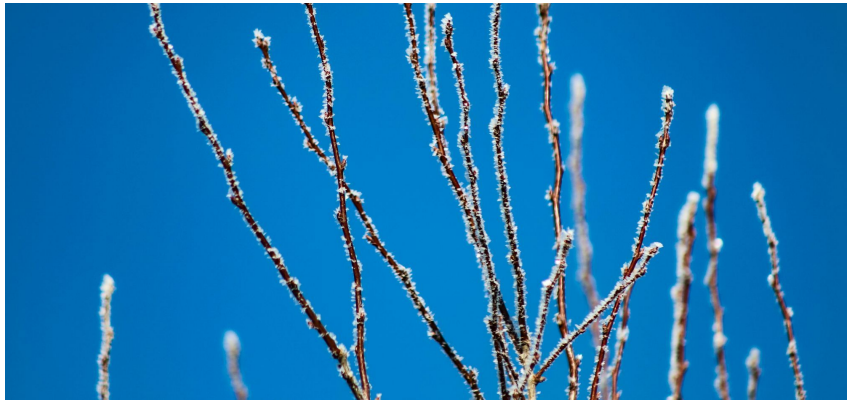
Residents leave for 'High Dwell' anchors: **Fitness, Dining, Shopping** (Leakage Data)

The Result: Pass-Through Behaviour

Low engagement, short dwell times (**~7 mins**), and 'Touch-and-go' trips

We don't need to change when people come, we need to change what is there when they arrive

ACTION PLAN: ANCHORING THE CORE



1. The Fitness Anchor

Recruit a franchise studio/gym to recapture **12.37** affinity leakage and drive recurring, high dwell foot traffic

2. Reliable Casual Dining

Prioritize a recognizable family-friendly dining tenant to capture **6 PM** peak and extended weekend families

3. 'Signature' Evenings

Concentrate programming (markets, extended hours) in the verified **5 PM - 8 PM** peak window

4. Weekend Bundling

Create 'Linger' packages (e.g. 'Market + Brunch + Kids Activity') to force multi-stop behaviour on weekends

5. Convenience Infill

Add grab-and-go essentials to capture the 'Daily Needs' leakage and stop those trips from bypassing downtown

Execution Focus: These actions turn the specific data insights (leakage categories and peak times) into physical reality

CONCLUSION: Downtown Cochrane has the people and the timing, it simple needs the places to put them

Defining Success

Primary Goal: Convert 'Pass-Through' presence into 'Destination' dwell time

Key Metric: Increase weekend signal-to-device ratio (deepening engagement)

Target: Shift median dwell time from 7.5 minutes to > 20 minutes

Risk Assessment

Implementation Risk: Success depends on availability of commercial real estate suitable for larger format anchors (gym/dining)

Market Friction: Relies on recruiting specific tenant types (franchise/chains) that may conflict with the 'boutique' downtown character

Data Assumption: Assumes current mobile data patterns are a reliable proxy for future economic behaviour