


# Impact of a Zone Maintenance Model

University of Calgary Facilities Management

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## Content



- Background
- Issues identification
- Data Analysis
- Conclusions
- Recommendations




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## Calgary, Alberta, CANADA

- Population : 1,267,344 in 2018
- Area: 726.50 km<sup>2</sup> (280.5 sq mi)
- Elevation: 1,048 m (3,438 ft)
- 3<sup>rd</sup> Largest City in Canada
- Host of the 1988 Winter Olympics
- Home of the Calgary Flames
- Fourth most livable city in the world – The Economist
- Economy: leader in the Canadian oil and gas industry

## University of Calgary

- Public research
- Separate, autonomous university in 1966
- 14 faculties, over 85 research institutes
- 3<sup>rd</sup> largest post-secondary footprint in Canada
- 24,000+ undergraduates, 6,000 graduate students, 5,000 staff
- 12 million ft<sup>2</sup> of space in 115 buildings across 8 sites
- Home of the Calgary Dinos

Motto: *Mo Shúile Togam Suas – I will lift up mine eyes*

## FM Introduced Zone Maintenance, October 2014

- Issues addressed
  - Work Request cycle time 60 days
  - Inequitable distribution of management workload
  - Unionized supervisors managing work units: responsibility without authority
  - Shrinking resources (7 % budget cut)
  - Better response time to work requests
  - Better problem solving, accountability within multi-disciplinary teams
  - Smaller fleet

*In 2018 Facilities Management asked Internal Audit for an independent review of ARCHIBUS data (Trend Analysis)*

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## Original SWOT Analysis (1)

- Strengths
  - Reduce costs by minimizing management positions.
  - Reduce costs by eliminating vehicles.
  - Create operating teams by partnering a Facility Manager (FM) and Maintenance Supervisor to lead the Zone.
- Weakness
  - Facility Managers spread over larger areas.
  - Could create silos with some of the maintenance groups.
  - May be a lack of long term planning without senior managers leading the operations and maintenance teams.

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### Original SWOT Analysis (2)

- Opportunities
  - Creation of operating teams will break down some barriers that exist between Operations and Maintenance.
  - Enhance skill sets of zone FM's and Maintenance Supervisors as they will be managing multidisciplinary teams.
  - Greater responsiveness to issues within zones.
- Threats
  - Need for adequate space and touch down areas in Zones to accommodate larger teams.
  - May be perceived as 'downsizing'.

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### The Challenges of Centralized Maintenance

- Centralized Maintenance Models May Create Inefficiency and Unpredictability:
  - technicians may work in any building on any day
  - they rarely learn the peculiarities of a particular building
  - or the unique needs of its occupants, potentially leading to subpar service
  - campus units may feel distanced from facilities staff or frustrated

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### Potential Advantages of Zone Maintenance

- Zone Maintenance Can Increase Effectiveness and Improve Relationships:
  - Zone staff develop deep expertise on each building's operations
  - Zone staff create durable relationships with building occupants
  - Zone staff can serve as liaisons between the broader facilities department and building occupants
  - Zone staff can trouble shoot problems across trades because they work as a team

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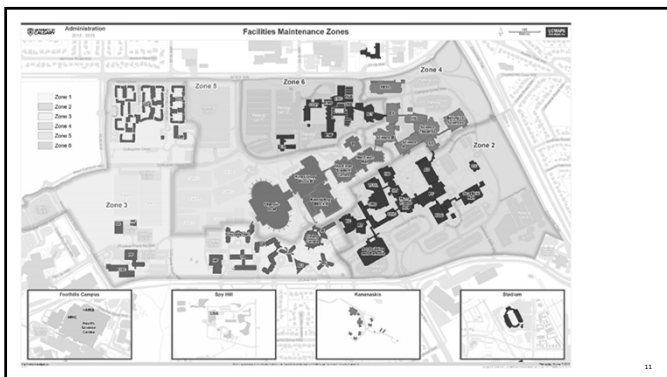
### Establishing Zones of Responsibility

- Divide the Campus into Zones of Several Geographically Adjacent Buildings:
  - ideal size of a zone will vary
  - zones should be small enough that staff can regularly visit buildings with similar maintenance needs
  - Used the APPA Maintenance Operational Guidelines and IFMA Labour calculations

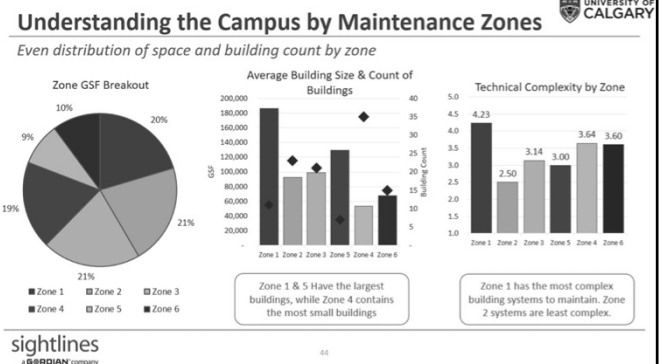
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### Establishing Zones of Responsibility

- Assign Each Zone a Team Skilled in a Wide Range of Day-to-Day Maintenance Tasks:
  - Zone staff should address only "minor labor" or demand maintenance
  - Zone staff should pay regular, proactive visits to each building in their zone
  - Report issues as and when they find them
  - Fix and repair on site, if possible

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### Establishing Zones of Responsibility

- Establish a Point of Contact in each Building / Faculty / Department to Coordinate Requests from Occupants:
  - To simplify communication and coordination with zone maintenance staff
  - provide day-to-day updates about maintenance needs, share messages, and liaise with facilities management leaders
  - The best person to serve as a point of contact will vary

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### Centralized Staff Should Perform Large or Specialized Tasks

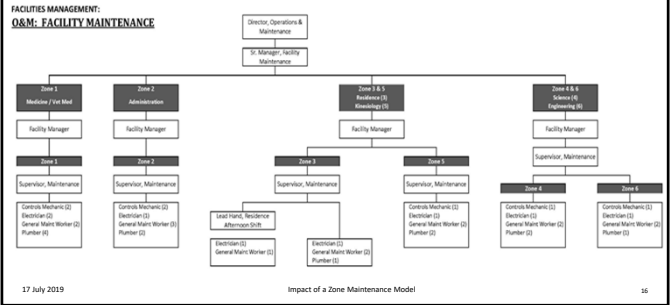
- Centralized Staff
  - Maintain university-wide networks (e.g., utilities, BMS, etc.)
  - Manage uniform campus needs (e.g., grounds care, waste removal, fleet, etc.)
  - Conduct specialized labour (e.g., carpentry, roof repairs, lock changes, tile setting, elevator repair, etc.)
  - Perform preventive maintenance tasks that are difficult to perform during daytime activities
- Zone-Specific Staff
  - Build relationships between facilities management staff and building occupants
  - Conduct preventive maintenance during regular building check-ins
  - Respond quickly to immediate building needs

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### Organization Chart – Zone Maintenance

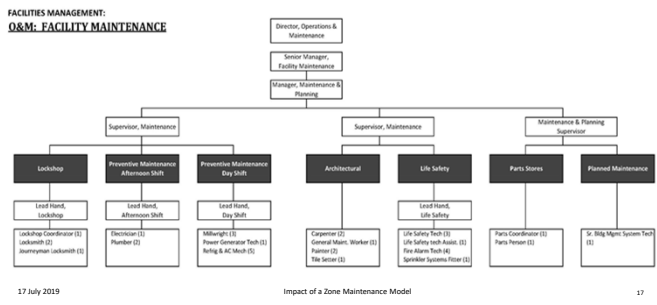


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### Organization Chart – Central Shops

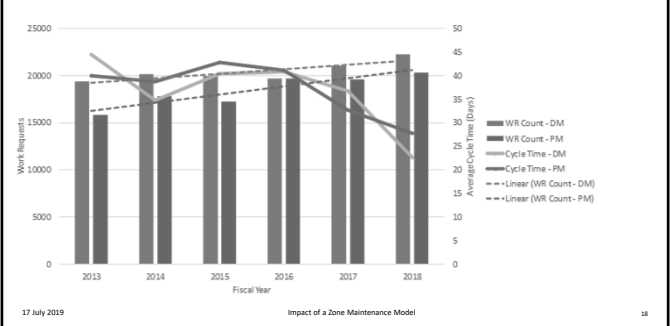


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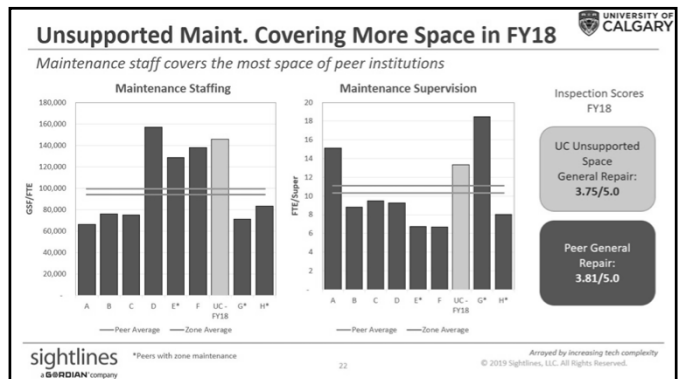
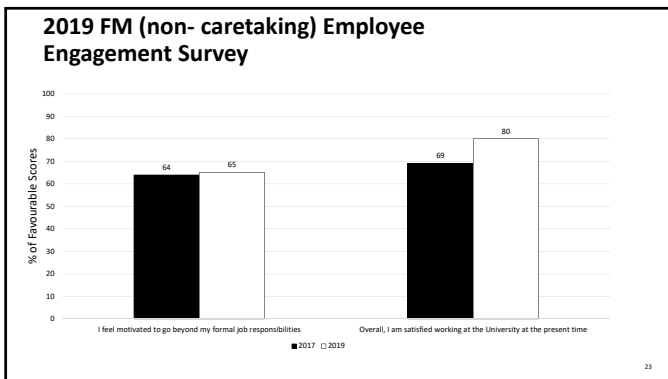
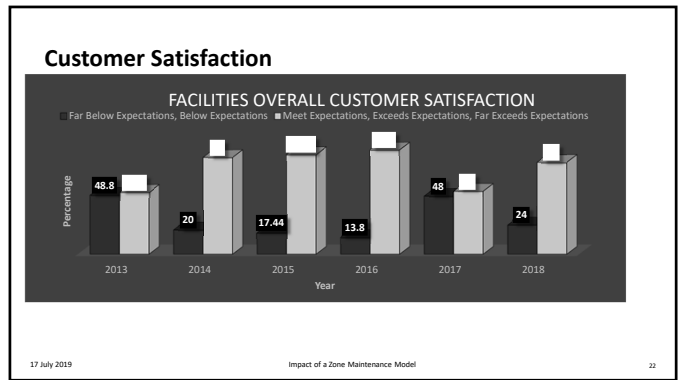
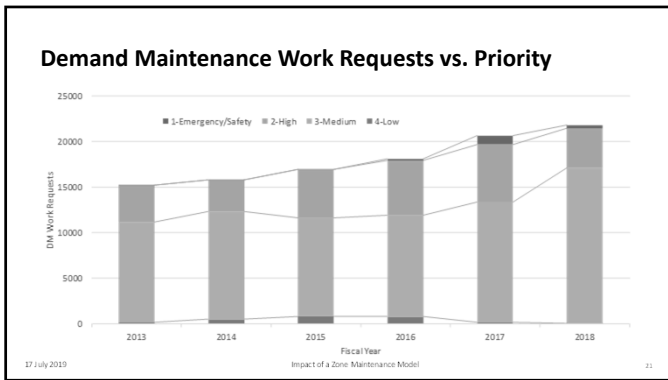
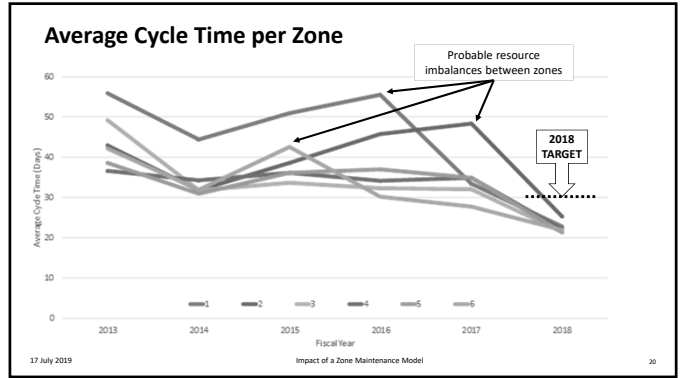
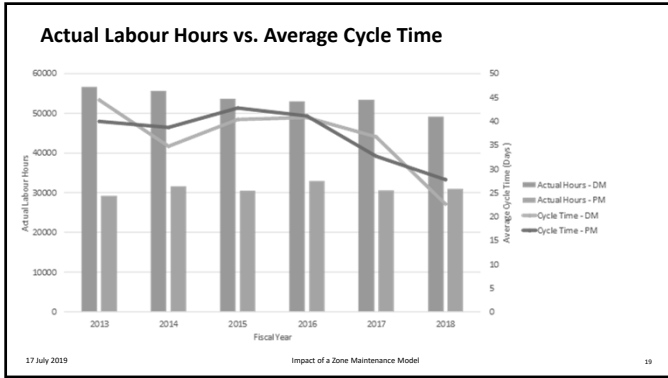
### Work Requests vs. Average Cycle Time



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### Expected Benefits Summary

- Expected Benefits (Quantitative)
  - More effective problem solving
  - Quicker response to demand maintenance requests
  - More equitable distribution of management & zone workloads
  - Smaller fleet size: Cost savings (12 vehicles)
- Expected Benefits (Qualitative)
  - Multi-disciplinary work teams: Better information sharing & mentoring
  - Move from AUPE supervision to MaPS supervision
  - Facility Managers have more time to work with clients and the PMO

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### Recommendations

- Measure zones on overall results (e.g. cycle time)
  - Eliminates incentives for resource sub-optimization
  - Fosters cross-zone cooperation
- Re-run analysis periodically to identify trends
- Keep track of employee satisfaction
- Identify zone specific concerns
- Receive direct feedback about what works and what doesn't

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### Lessons Learned

- Start with Why
- Engage the staff earlier in the process
- Have a good communications plan
- Use data to confirm your results
- Clear measurable Key Performance Indicators
- Follow up with staff to understand their pain points
- Provide a means for the trades staff to communicate with one another

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### Thank you !

For more information about University of Calgary Facilities go to [ucalgary.ca/facilities](http://ucalgary.ca/facilities)

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