



Innovation

Andrew Braeger, Chief Technology Officer

TPU Innovation Team



Andrew
Braeger



Cam
LeHouillier



Seema Ghosh



Sally Mohr



Dan McCabe



Dan Drennan



Corey Bedient

Agenda



DEFINITION



VISION



GOALS



METRICS



EXAMPLES



Innovation Defined

Innovation is the execution of new ideas that create value.

Traits of Innovation:

1. Novelty (new ideas)
2. A useful outcome generating value
3. ***Execution***, not just exploration of new ideas



Vision for Innovation @ TPU

We face complex challenges, including climate change, aging infrastructure, shifting workforce dynamics, uncertain sources of supply, changing regulatory requirements, dynamically changing markets, and rising customer expectations.

We will foster a culture of innovation to meet these challenges into the future.

An innovative culture enables creativity and experimentation to achieve new approaches to serve our customers, manage assets, finance investments, steward natural resources, and realize operational excellence.

Goals

Optimization

- Improve employee productivity
- Enhance the employee experience
- Enhance existing service offerings
- Realize cost savings
- Improve existing processes
- Deliver operational improvements
- Improve the customer experience

Transformation

- Deliver net new products
- Deliver net new services
- Deliver net new programs
- Pilot new business models
- Pilot new service offerings
- Responding to climate change



Innovation Metrics

Bar Index	Approximate Height (Blocks)
1	10
2	9
3	8
4	7
5	6
6	5
7	4
8	3
9	2
10	1

Innovation Culture Metrics

Creative Space

- Scale of 1-10, how much creative space does TPU provide staff to incubate and work on innovative use cases.

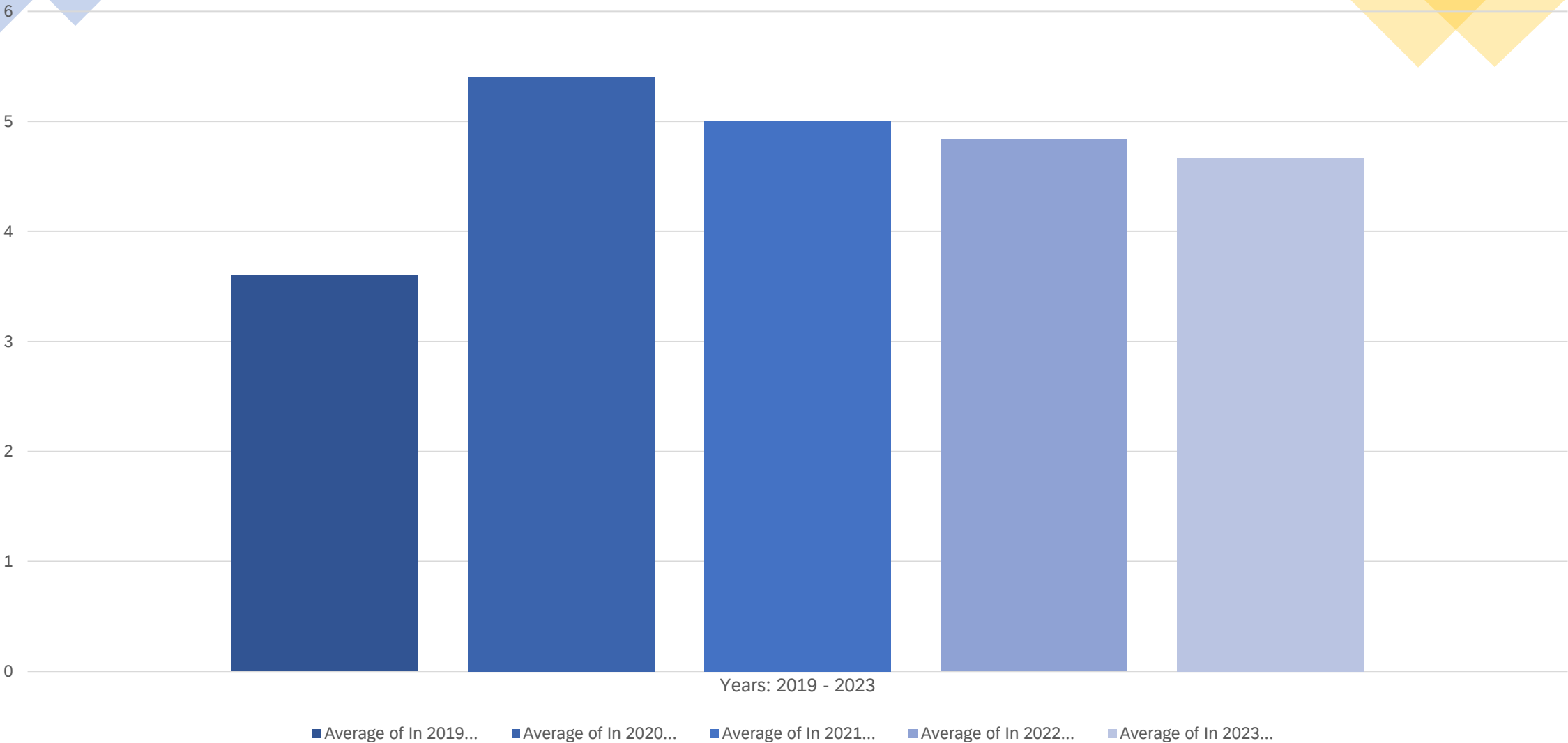
Adaptability

- Scale of 1-10, what is TPU's ability to change its ways in the name of

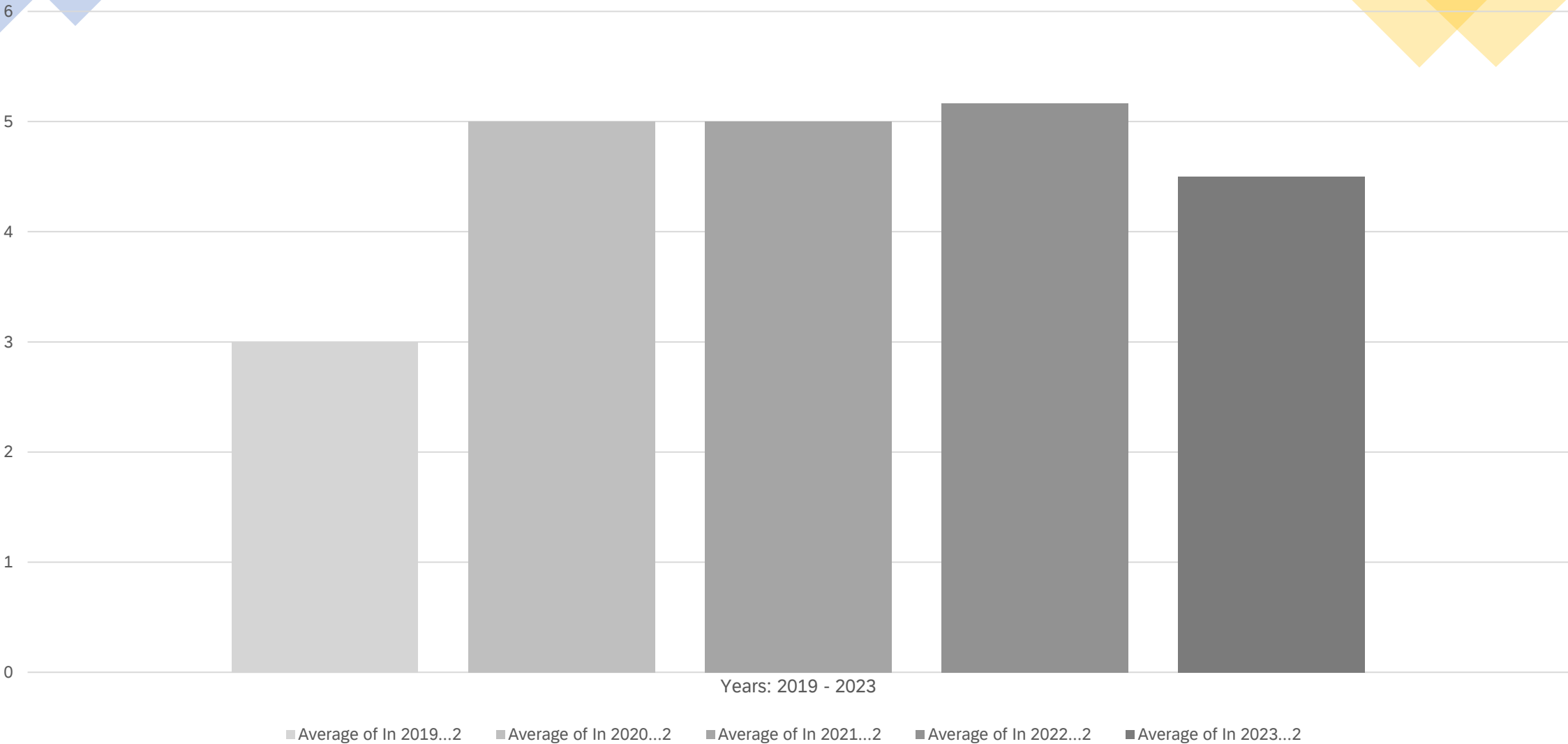
Barriers

- List major barriers to innovation at TPU.

How much creative space does TPU provide staff to explore innovative use cases?




What is TPU's ability to change its ways in the name of innovation?





Barriers

- Lack of time
 - Competing priorities
 - Budgeting process
 - Supply chain challenges
 - City shared services lack of support
 - Leadership turnover
 - Culture
 - Compensation
 - Talent recruitment & retention
- 

Longer-term Metrics

1. **Throughput:** average time to deliver an innovation use case.
2. **Potential:** number of new use cases submitted in a time period.
3. **Conversion:** new use cases turned into production concepts.
4. **Financial:** total benefit of use cases delivered in a time period.
5. **Recognition:** number of use cases receiving industry recognition.

Innovation Examples

Service Line Grant & Loan Program

The rapid development and implementation of Tacoma Water's Service Line Grant and Loan Program to provide financial support for customers to repair and/or replace customer side pipe.





Electrification

Tacoma Power design and delivery of programs to support EV adoption, including the electric car discount program, the shade tree program, the home EV charging program, the multifamily EV charging program, and the upcoming fleet charging program.

Microgrid

Exploration of microgrid offerings on Ketron island currently served with aging submarine cable.



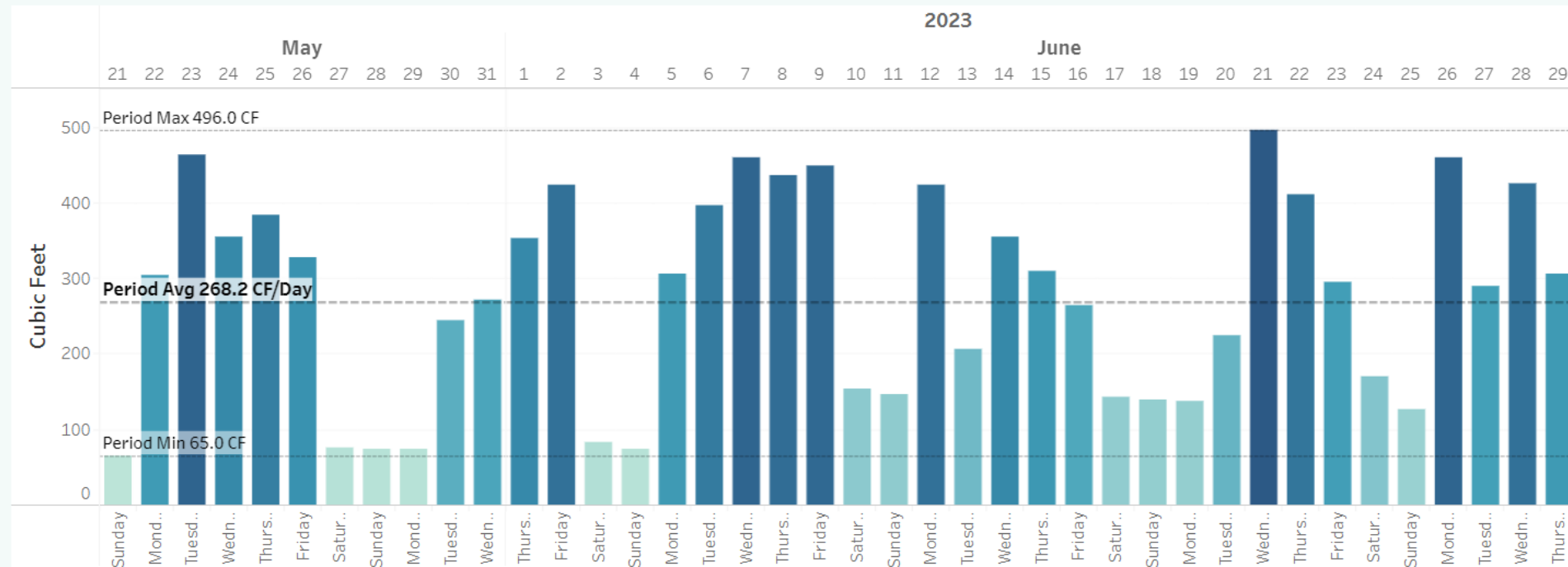
Analytics

- ✓ Transformer load management
- ✓ Electric vehicle adoption
- ✓ Meter data consumption
- ✓ Water SCADA reporting
- ✓ Home energy reporting

TACOMA WATER
TACOMA PUBLIC UTILITIES

AMI Meter Consumption With Daily & Hourly Views

UPDATE Hourly chart now color coded: green = actual usage, yellow = estimation





New Rate Structures

Tacoma Power has identified barriers in existing tariffs and has proposed and passed three alternative rate structures to support EV charging investments, shorepower expansion, and to support electrofuel production.



Electric Locomotive Vehicles

Tacoma Rail pursuit of battery electric locomotive vehicles.

Question & Response

