

BRIEFING TO THE CITY COUNCIL

Mainframe Modernization



Department of Information Technology
October , 2026

CURRENT STATE

What We Operate Today



Aging mainframe infrastructure

Most state DMV mainframes date to the 1970s–1990s*, built on COBOL. Aging hardware raises failure risk and maintenance costs.



COBOL / legacy codebase

Legacy systems lack modern encryption and security capabilities needed to protect sensitive PII.



Institutional knowledge risk

Key personnel, who fully understand the legacy DMV/DL/SID codebase, nearing retirement.



Competitive Recruitment

We lose competitive recruitment battles to private sector firms as younger workforce are drawn to automation and modern, web-enabled platforms.

2

Developer

30+

Integrated System

\$3M

Annual Maintenance Cost

CURRENT STATE

Today's mainframe screen

```
ACCT INQ CITY AND COUNTY 10/19/26  
TRAN: AI01 SCREEN 001 OF 003 14:32:07
```

```
ACCOUNT NO: 00-0000000-0  
NAME.....: [SAMPLE NAME]  
ADDRESS....: [SAMPLE ADDRESS]  
STATUS.....: A TYPE: 03 CODE: R7
```

```
PF1=HELP PF3=EXIT PF7=BACK PF8=FWD  
PF12=CANCEL ENTER=PROCESS  
==> _
```



What users face

- Text-only, fixed screens
- Codes and function keys to memorize
- Special terminal software required
- Long learning curve for new staff
- No mouse
- Have to buy spare keyboards on eBay

CURRENT STATE

Work Environment



What users face

- Paper, paper, paper!
- Antique, costly equipment



WHERE WE'RE HEADED

A modern platform the City can run anywhere

We are moving the City's COBOL applications off the mainframe and onto modern, widely used open technology.

Web applications

Browser-based apps built on modern programming language.

Modern data

Mainframe data migrated to modern database with enhance data security.

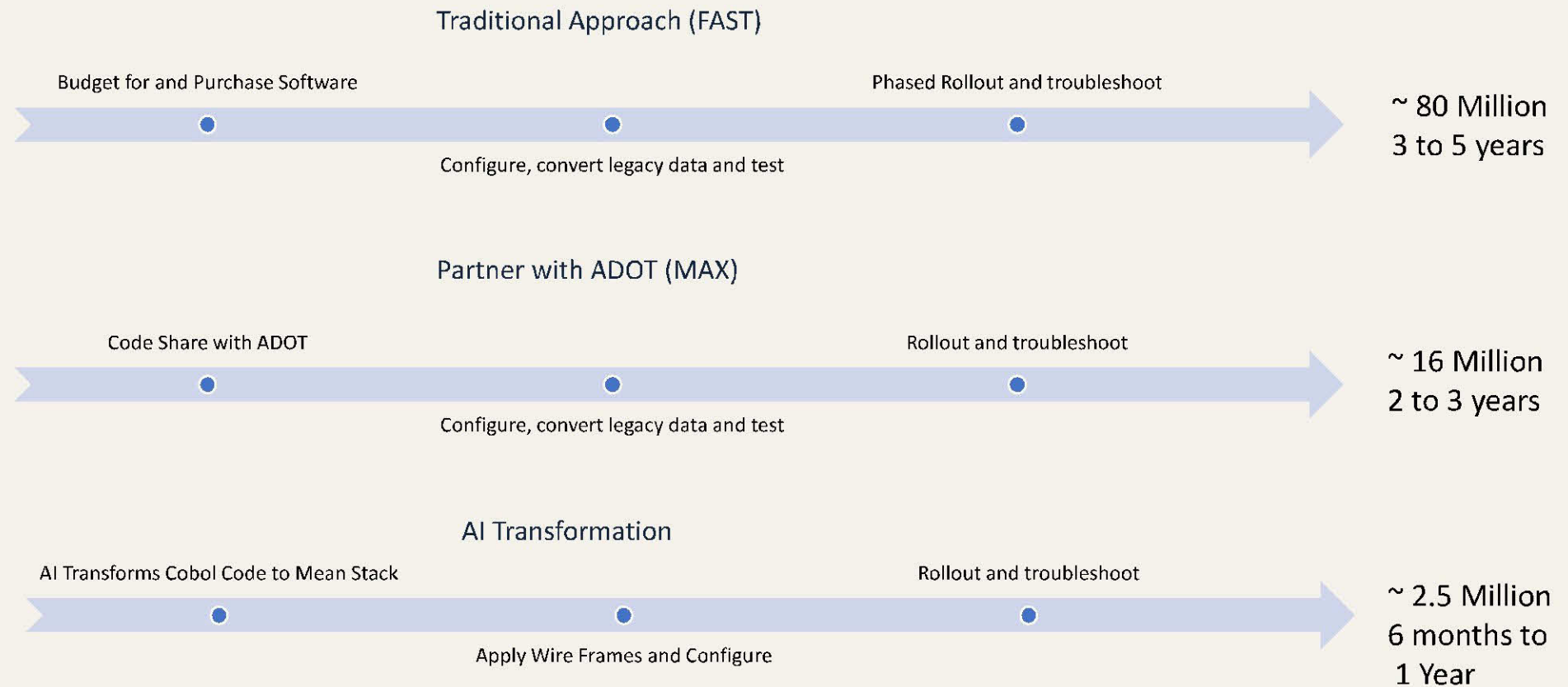
Run anywhere

Containers portable to any cloud or on-premise.

Documented

System documentation produced along the way.

Three Paths to Modernization



TOMORROW

The new web-enabled design

The screenshot displays the 'Motor Vehicle Registration' web application. The header includes the City and County of Honolulu logo, a search bar, and user information. A left sidebar lists navigation options like Dashboard, Transactions, and Records & Tools. The main content area shows a 'New registration' flow with four steps: Vehicle, Owners, Plate & county, and Review. The 'Vehicle' step is active, showing fields for VIN, vehicle class, model year, make, and body type. A 'Fees' section on the right lists various taxes and fees, many of which are marked as 'pending (missing code)'.

City and County of HONOLULU

Motor Vehicle Registration

Search plate, VIN, owner...

CSR Assistant FAQ

nvo@honolulu.gov @ Honolulu (O'ahu)

Dashboard

TRANSACTIONS

Inquiry

Registration

Renewal

Transfer

Maintenance

Replace plate

RECORDS & TOOLS

Comments

Print

Owners

Admin

Help Center

Console > New registration

New registration

Register a newly titled or move-in vehicle (MNR / M01).

1 **Vehicle**
VIN, class & specs

2 **Owners**
Registered & legal

3 **Plate & county**
Plate, dates, emblem

4 **Review**
Fees, screening & confirm

← Cancel Step 1 of 4 · Vehicle Continue →

Vehicle identity

The VIN keys the master. Length and character class are enforced (BR-VAL-03); no check-digit rule is applied — the register holds pre-1981 serials and imports that ISO 3779 would refuse.

VIN / serial *

DEMOCVBUT9S8R7P6

Exactly 17 characters, letters and digits. Stored uppercase.

Vehicle class *

1 — Passenger Auto

Model year

2024

Make (code)

HONDA

Model

CIVIC

X(B) — stored and printed exactly as entered.

Body type (code)

Colour (code)

Fees INCOMPLETE

Weight tax pending (missing code)
MVSXTXC (weight tax) — no source in corpus

State tax pending (missing code)
MVSYTXS (county/state split) — no source in corpus

County tax pending (missing code)
MVSYTXS (county/state split) — no source in corpus

State registration fee pending (missing code)
MVSYTXS (county/state split) — no source in corpus

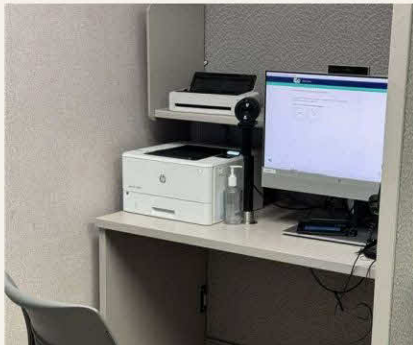
Beautification pending (missing code)

What changes

- Works in any web browser
- Plain-language labels, no codes
- Search instead of memorized commands
- Designed with users through wireframes

TOMORROW

Modernized Work Environment



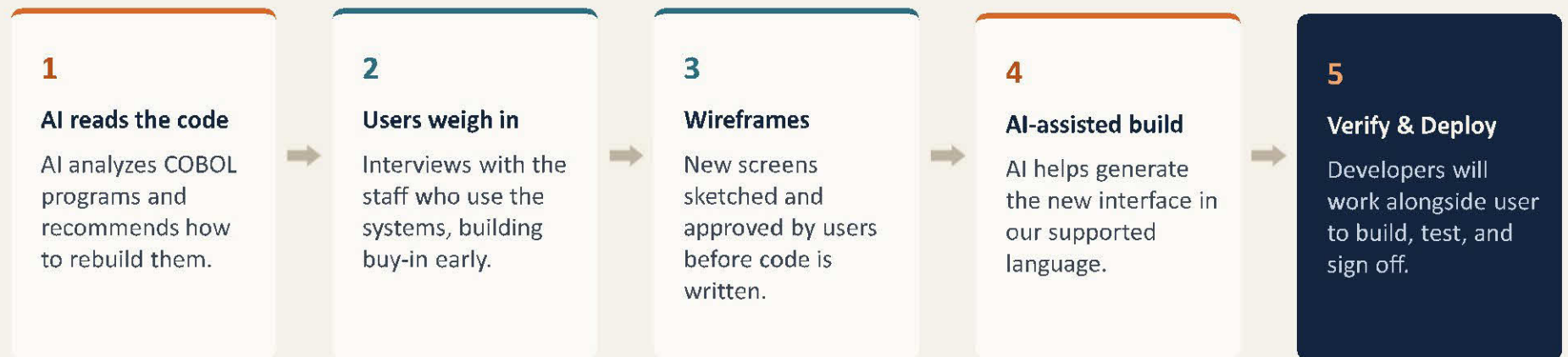
Images from Arizona DMV Visit

What changes

- Use of modern equipment that is cheaper in cost
- Paper reduction
- Potential to for portable a DMV

01 • OUR APPROACH

Five steps from COBOL to the web



AI speeds up the work. People make the decisions.

STEP 1 · AI ANALYSIS

AI reads our COBOL and recommends a path

What the AI does

- Reads each COBOL program and explains it in plain language
- Pulls out the business rules buried in the code
- Maps how programs, files, and data connect
- Recommends how to structure the new application

Why it matters

Captures knowledge locked in decades-old code and turns it into documentation.

Every recommendation is reviewed by City developers before it's used.

STEPS 2-3 · USERS FIRST

Users shape the design before code is written

User interviews and buy-in

We sit with the staff who use each system to learn how they really work, what slows them down, and what they need. Involving them early builds ownership.

Wireframing

We sketch the new screens and walk users through them. Changes happen on paper, when they're cheap, not after code is written.

STEPS 4-5 · BUILD AND VERIFY

AI-assisted build, user-verified

- AI generates interface code from the approved wireframes, in the City's supported technology stack
- Shared standards keep the work consistent across teams
- Developers review, test, and refine everything AI produces
- Users test and sign-off

SIDE BY SIDE

What modernization changes

	Today	Modernized
Access	Terminal emulator software	Any modern web browser
Navigation	Function keys and codes	Menus, search, and buttons
Data	Mainframe files	Modernized, high-performance database
Training	High learning curve	Familiar web screens
In-house Support	2 in-house staff	20 in-house staff

NEXT STEPS

Where we go from here

TODAY

Project Planning

Scope of Work In-Progress.

2027

Target to Start Work

What we need from Council

Support through Sustained Investment. Sustained funding/ ongoing appropriation to enable ongoing adoption of new technologies to maintain effectiveness and interoperability.

Questions??

Mahalo for your time.
