FRAGILE or AGILE?

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Metropolitan Transportation Commission

UCLA Lake Arrowhead Symposium 2015

Q: Why do planners forecast to the nearest tenth of a percent?

A: To prove they have a sense of humor.

$\pi = 3.14159265359$

Accuracy

Precision

FRAGILE

Typical Transportation Project Development Process

Approximate Timeline (in years)

1 2 3 4 5 6 7 8 9 10

BEGIN CONSTRUCTION

Planning Studies

Determine Existing Conditions

Traffic Forecasts

Analysis Needs

Conceptual Solutions

Preliminary Cost Estimates

Cost Estimation Validation Process (CEVP)

Environmental Studies

Purpose and Need

Traffic Analysis

Preliminary Alternatives

Public Outreach

Technical Studies

Air Quality

Noise Analysis

Socio/ Economic

Cultural Resources

Biological Resources

Hazardous Materials

Water Quality

Floodplain/ Hydrolic

Energy

Land Use

Economic

Wetlands

Visual Effects

Environmental Justice

Cumulative & Secondary Impacts

Cost-Benefit Analysis

Refine Alternatives

Alternative Selection

Section 4 (f) Evaluation

Record of Decision

Preliminary Design

Geometric Design

Typical Selections

Grading

Drainage

Structural

Traffic/ITS

Signing/Striping

Lighting

Utilities

30% Plans

Final Design

60% Plans

90% Plans Specifications and Estimates

Final Plans

Right-of-Way Engineering and Acquisition

Right-of-Way Setting

Right-of-Way Engineering

Appraisals

Purchase Offers

Counter Offers

Relocation

Asbestos Clearing

Demolition

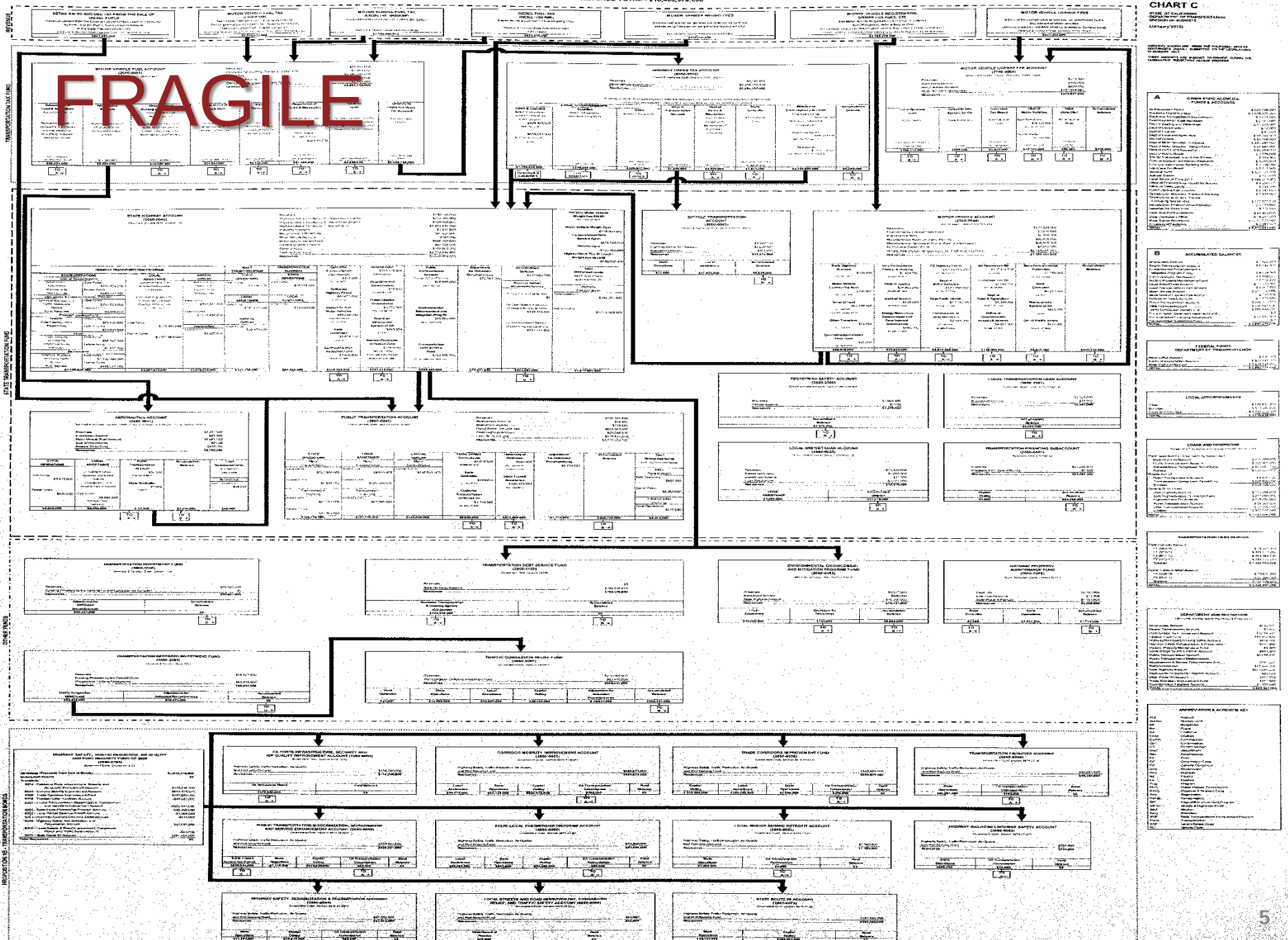
Condemnation (if necessary)

Federal Regulations

Source: Nevada DOT

BUDGETARY FLOW OF CALIFORNIA STATE FEES AND TAXES DESIGNATED FOR TRANSPORTATION PURPOSES PROPOSED FOR THE 2012-13 FISCAL YEAR

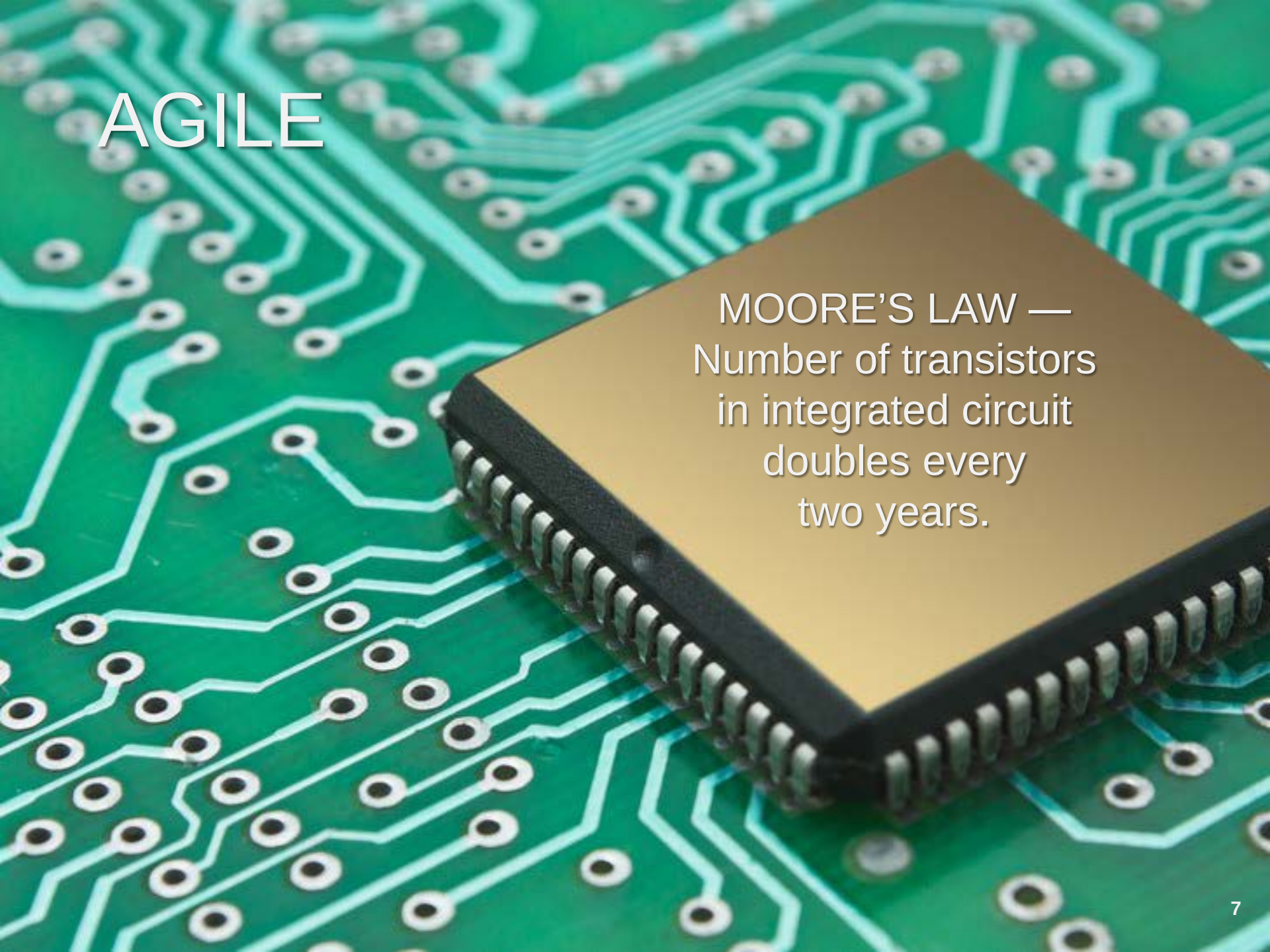
CALIFORNIA STATE MOTOR VEHICLE FEES AND TAXES
REVENUE TOTAL - $10,406,976,000



Extremely FRAGILE

Jon SooHoo/©Los Angeles Dodgers LLC

AGILE

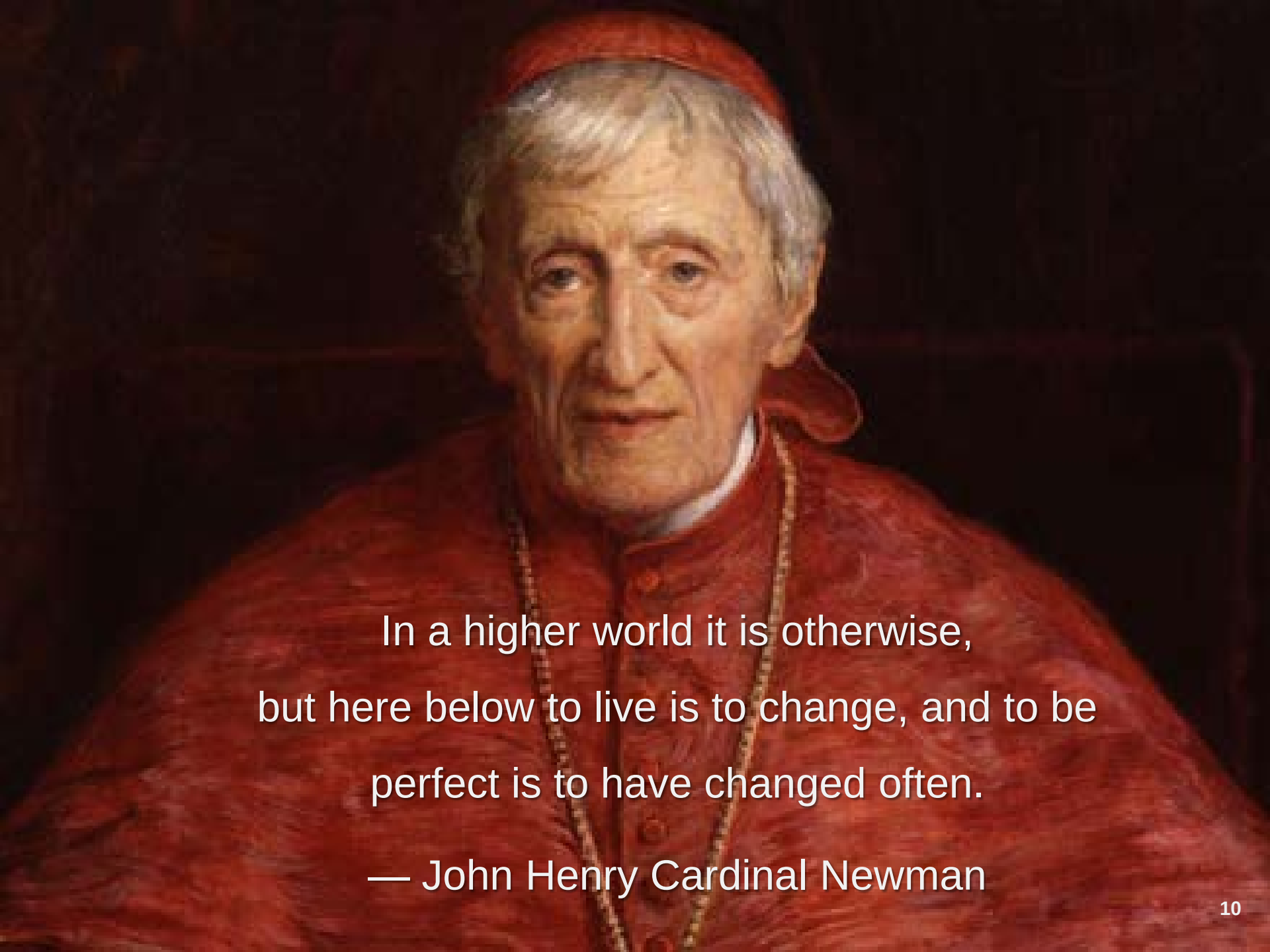


MOORE'S LAW —
Number of transistors
in integrated circuit
doubles every
two years.

AGILE

8

Super AGILE



In a higher world it is otherwise,

but here below to live is to change, and to be

perfect is to have changed often.

— John Henry Cardinal Newman