

# ***Safe Harbor***

In the presentation that follows and in related comments by General Motors management, our use of the words “expect”, “anticipate”, “estimate”, “forecast”, “objective”, “plan”, “goal”, “project”, “outlook”, “priorities/targets” and similar expressions is intended to identify forward looking statements.

While these statements represent our current judgment on what the future may hold, and we believe these judgments are reasonable, actual results may differ materially due to numerous important factors that are described in GM’s most recent report on SEC Form 10-K which may be revised or supplemented in subsequent reports on SEC Forms 10-Q and 8-K. Such factors include, among others, the following: changes in economic conditions, currency exchange rates or political stability; shortages of and price increases for fuel, labor strikes or work stoppages; health care costs; market acceptance of the corporation's new products; pace of product introductions; significant changes in the competitive environment; changes in laws, regulations and tax rates; and, the ability of the corporation to achieve reductions in cost and employment levels to realize production efficiencies and implement capital expenditures at levels and times planned by management.



***General Motors'***

***Productivity  
Journey***

**Jim Wiemels**

*Vice President,*

*Global Manufacturing Engineering*

# ***Agenda***

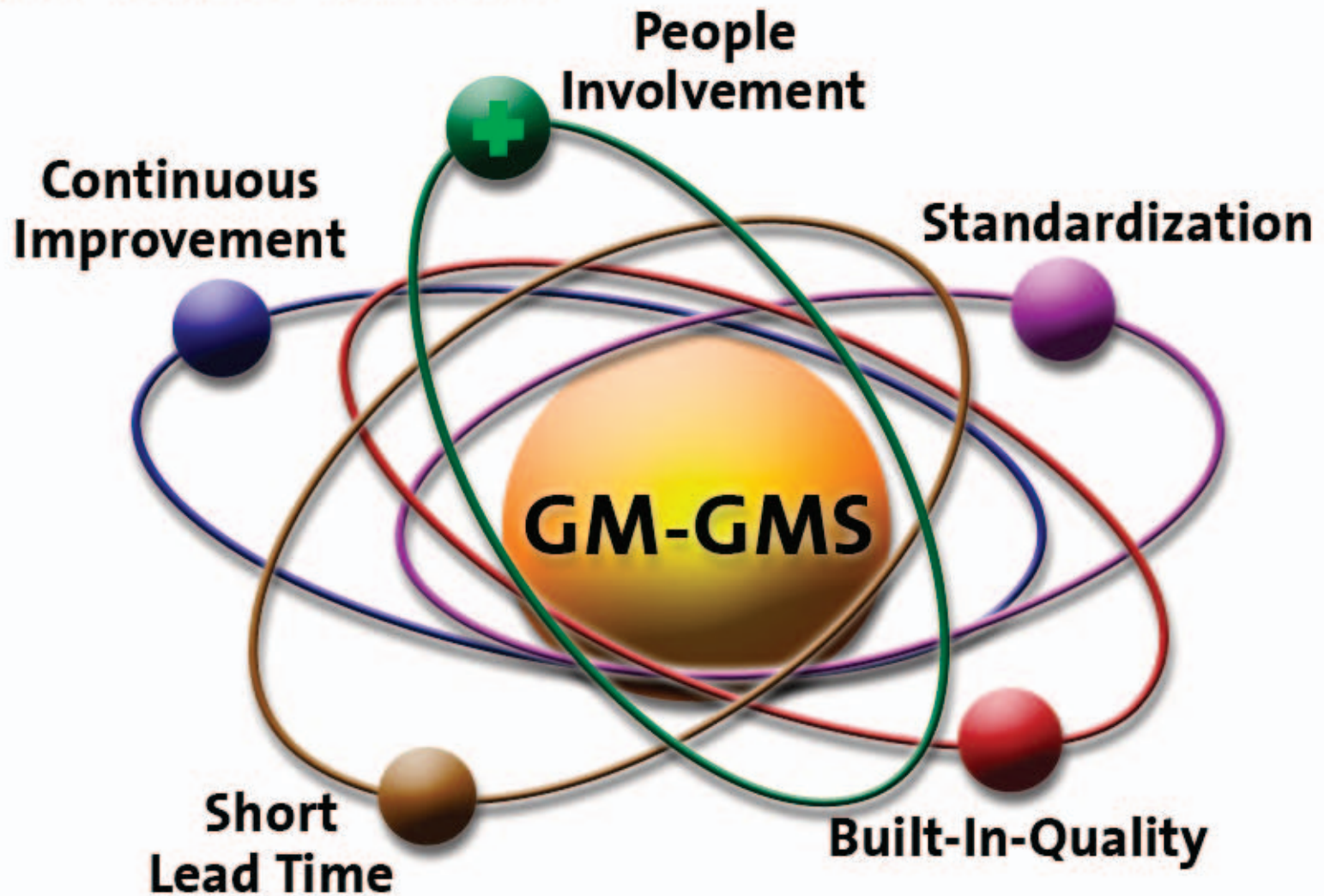
- Global Manufacturing Engineering and Manufacturing
- Current results in productivity and quality
- What's new in 2005

# *GLOBAL MANUFACTURING ENGINEERING*

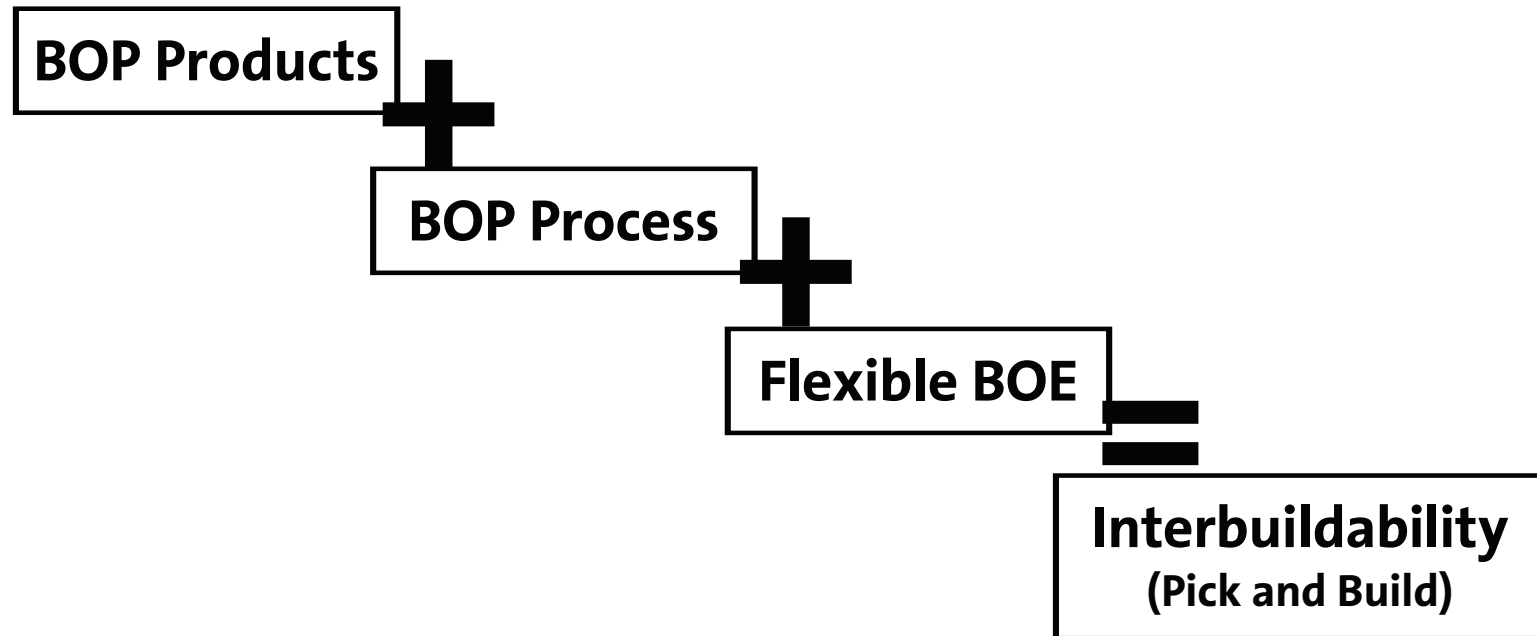
# ***Manufacturing Engineering Overview***

- Global Manufacturing Engineering Organization
- Global Manufacturing System (GMS)
- Global Manufacturing Flexibility Strategy (Interbuildability)
  - Global Bill Of Process
  - Global Bill Of Equipment
- Summary

# ***GM-GMS Vision***



# ***Strategy Fundamentals – Flexible Product/Manufacturing Portfolio***



How do we move from where we are today to where we need to be in the future?

# ***Global Bill of Equipment (BOE)***

**Definition:**

List of machinery and equipment to be utilized for various groups of GM plants

- Comprised of “Best of the Best” from all regions
- Supports implementation of BOP
- Provides multiple solutions for assembly plants

***Bill of Equipment enables global use of common equipment  
with consideration of regional factors  
(such as labor rates, volumes, and technical capability)***

# ***Global Bill of Equipment (BOE)***

## **Benefits:**

Transition from the traditional Design, Build, Install, and Debug equipment process to a Build and Install concept on identical systems, and minor Design and Debug on nearly identical systems

- Reduce approximately 10 to 25% of engineering design costs
- Reduce manufacturing lead time via more efficient startups
- Leverage global purchasing
- Share technical knowledge and spare parts globally
- Build upon global lessons learned

***Globally common and integrated BOP and BOM enables comparable groups of plants to use a common Bill of Equipment based on assembly plant production and labor rates***

# ***Summary***

**Acting as One Company and executing our Global Strategy enables us to leverage our size and WIN**

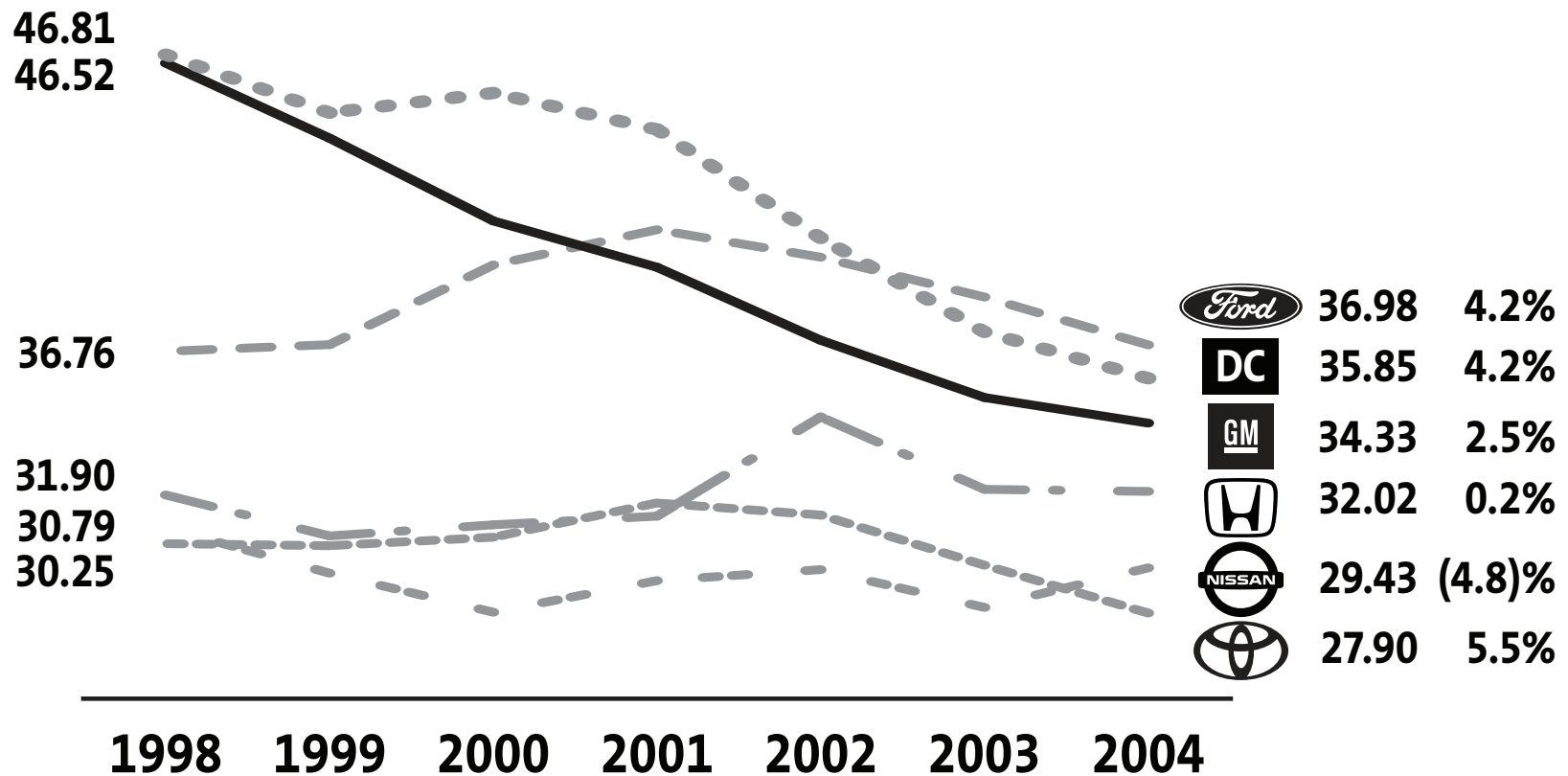
- Global Manufacturing System
- Global Manufacturing Flexibility (Interbuildability)
- Global Bill of Process
- Global Bill of Equipment

***Drives GM to a truly Global Company with significant impact to the bottom line***

# PRODUCTIVITY

# North American History of Total Hours per Unit (Assembly, Stamping, Powertrain)

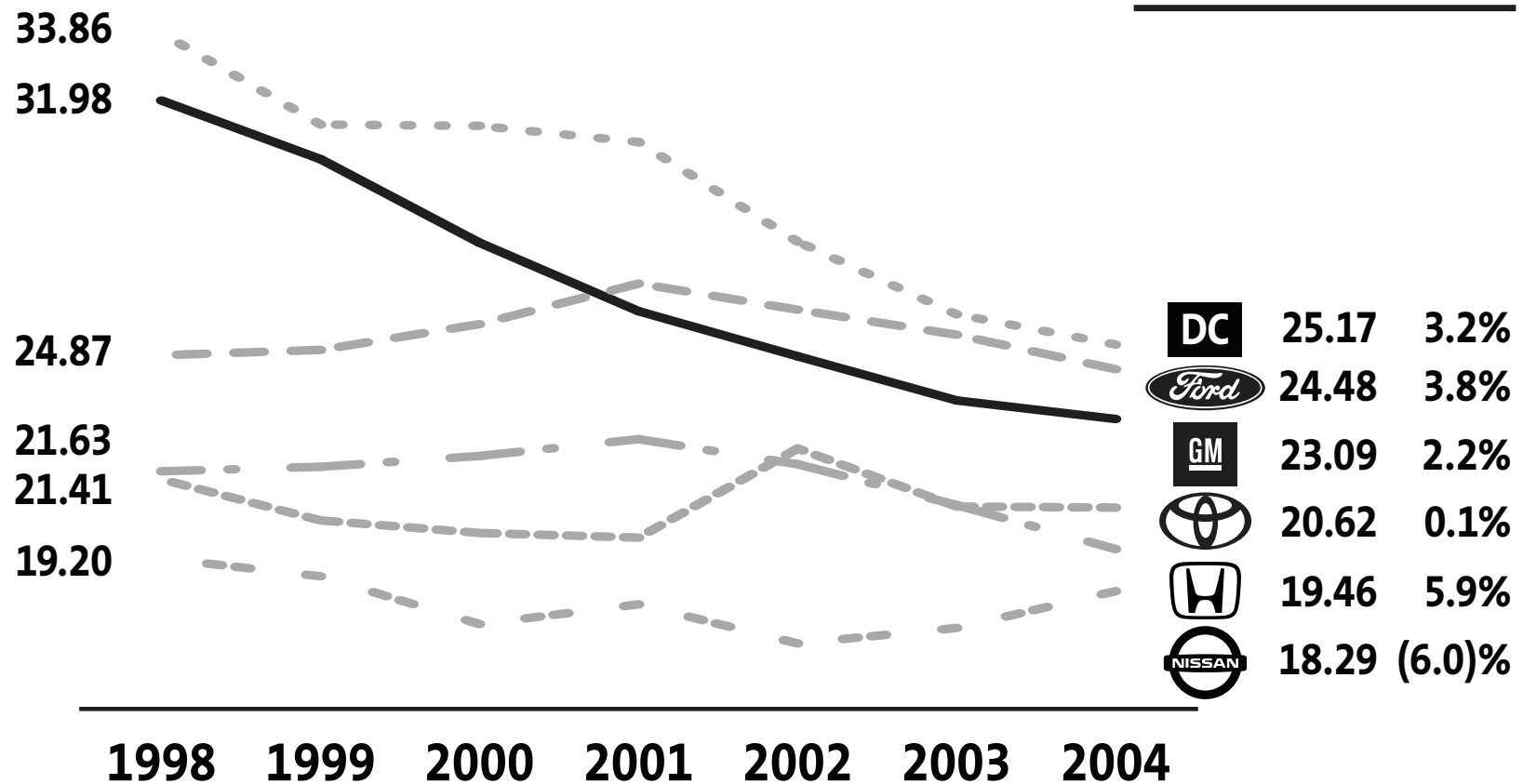
2004 vs. 2003



GM excludes medium duty. Honda, Nissan and Toyota data includes partial reporting of North American plants

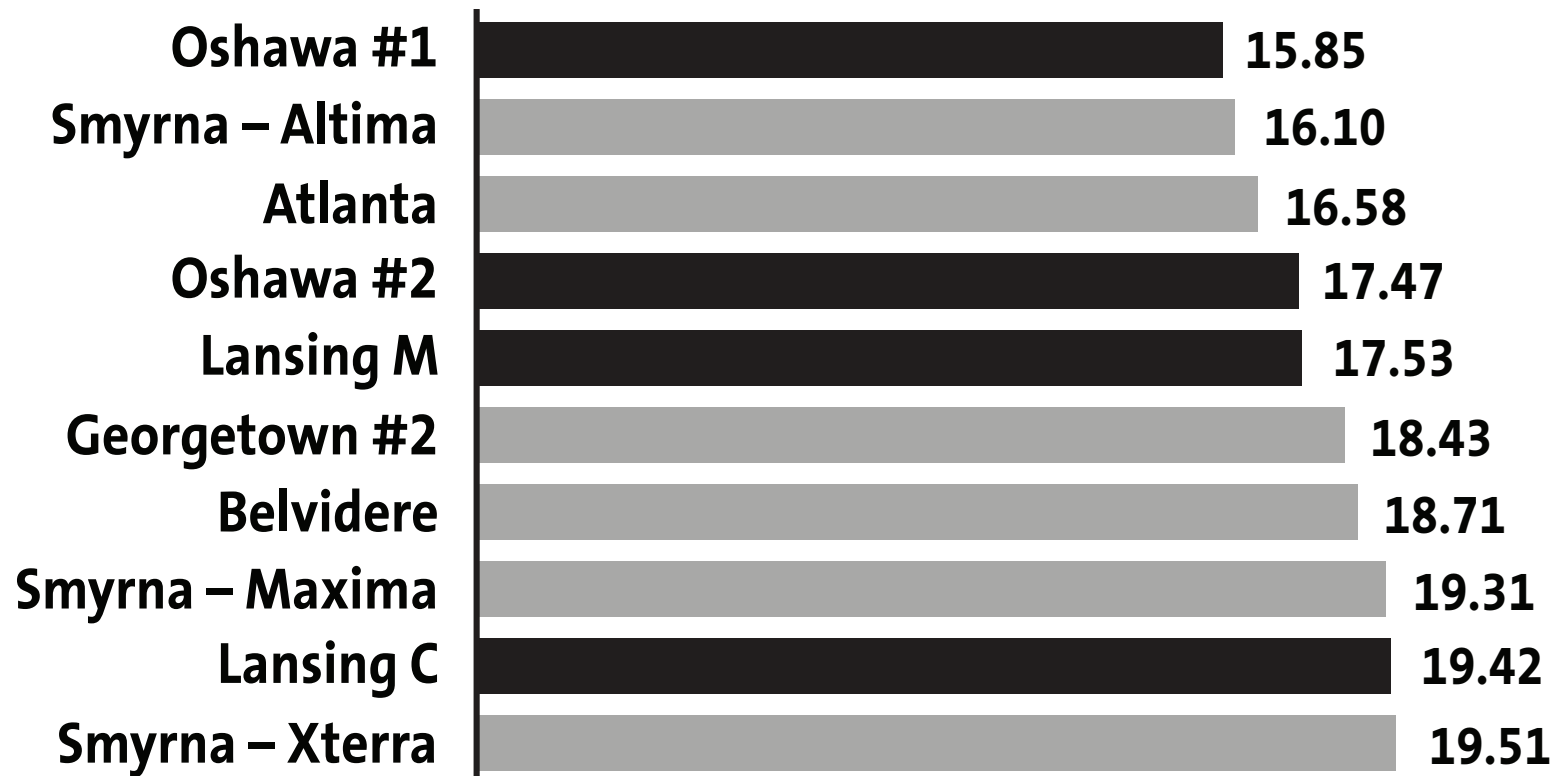
# History of Assembly Labor Productivity Hours per Vehicle

2004 vs. 2003



GM excludes medium duty. Honda, Nissan and Toyota data includes partial reporting of North American plants

## ***Top Ten Vehicle Assembly Plants Hours per Vehicle***



# Car Segment Comparisons – Top 3

Subcompact	
1. DCX Belvidere	18.71
2. Toyota Cambridge N	19.92
3. Honda ELP	20.19

Large	
1. Ford St. Thomas	21.49
2. DCX Brampton	29.97

Compact	
<b>1. GM Lansing M</b>	<b>17.53</b>
<b>2. GM Lansing C</b>	<b>19.42</b>
<b>3. GM Fairfax</b>	<b>19.52</b>

Luxury	
<b>1. GM LGR</b>	<b>24.11</b>
<b>2. GM D-Ham</b>	<b>25.37</b>
3. Ford Wixom	35.62

Midsize	
<b>1. GM Oshawa #1</b>	<b>15.85</b>
2. Nissan Smyrna (Altima)	16.10
3. Ford Atlanta	16.58

Sports Car	
1. Ford Dearborn	22.39
<b>2. GM Bowling Green</b>	<b>45.54</b>

# Truck Segment Comparisons – Top 3

Small SUV	
1. Nissan Smyrna	19.51
2. Ford Kansas City #1	19.94
3. DCX Toledo North	20.62

Midsize SUV	
<b>1. GM Moraine</b>	<b>20.73</b>
2. Ford St. Louis	21.40
3. Honda Alliston #2	22.51

Fullsize SUV	
<b>1. GM Arlington</b>	<b>22.39</b>
<b>2. GM Janesville</b>	<b>24.28</b>
3. DCX Newark	24.98

Small Pickup	
1. Nissan Smyrna	19.57
2. Ford Twin Cities	20.77
3. NUMMI	23.46

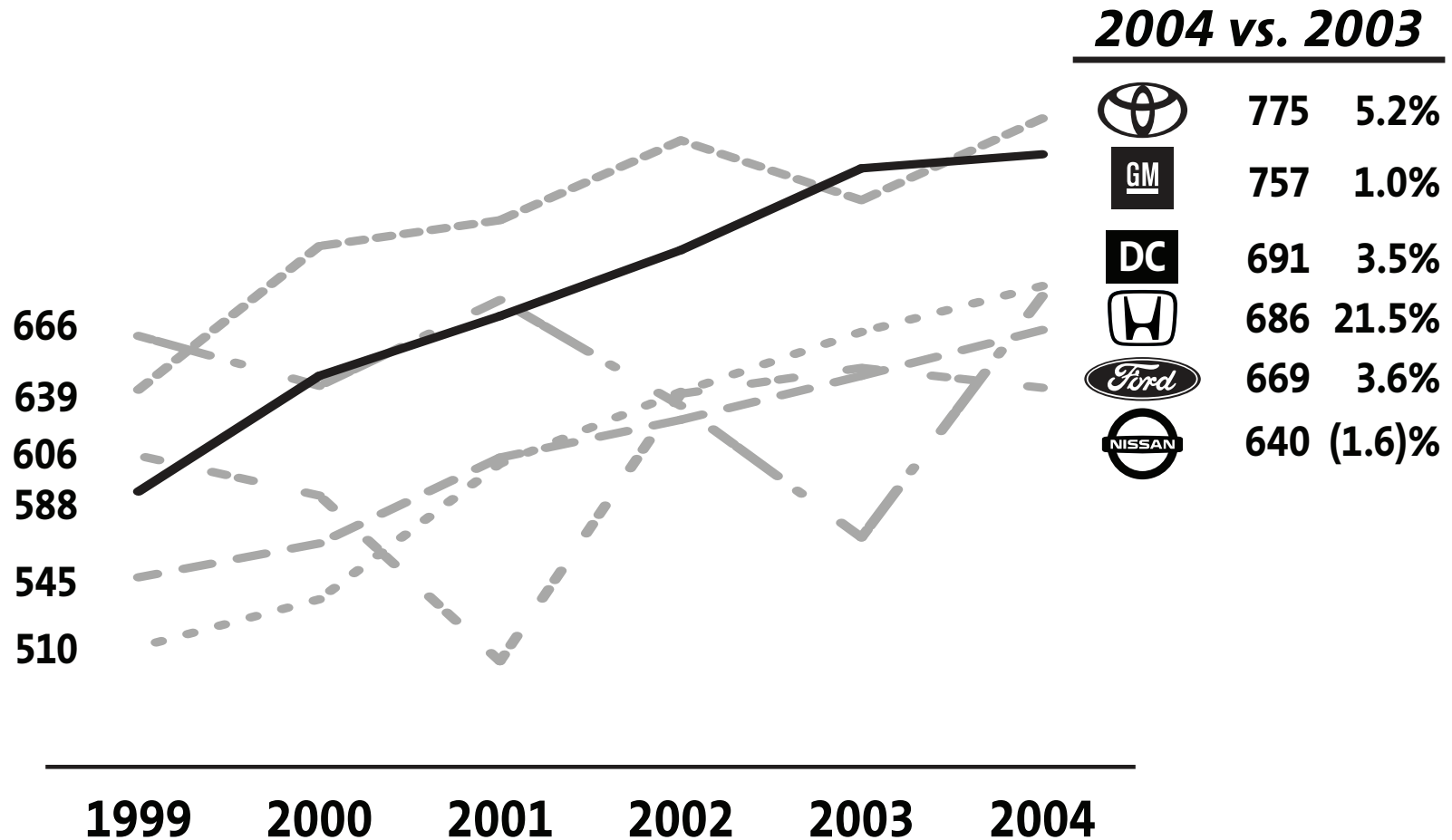
Fullsize Pickup	
<b>1. GM Fort Wayne</b>	<b>19.86</b>
<b>2. GM Oshawa</b>	<b>20.76</b>
<b>3. GM Pontiac</b>	<b>21.95</b>

Minivan	
1. DCX St. Louis South	22.94
<b>2. GM Doraville</b>	<b>26.33</b>
3. DCX Windsor	27.43

Large Van	
<b>1. GM Wentzville</b>	<b>24.41</b>
2. Ford Lorain	27.66

Medium Duty	
<b>1. GM Toluca</b>	<b>37.11</b>
<b>2. GM Flint</b>	<b>42.47</b>

# History of Stamping Equipment Productivity Pieces per Hour



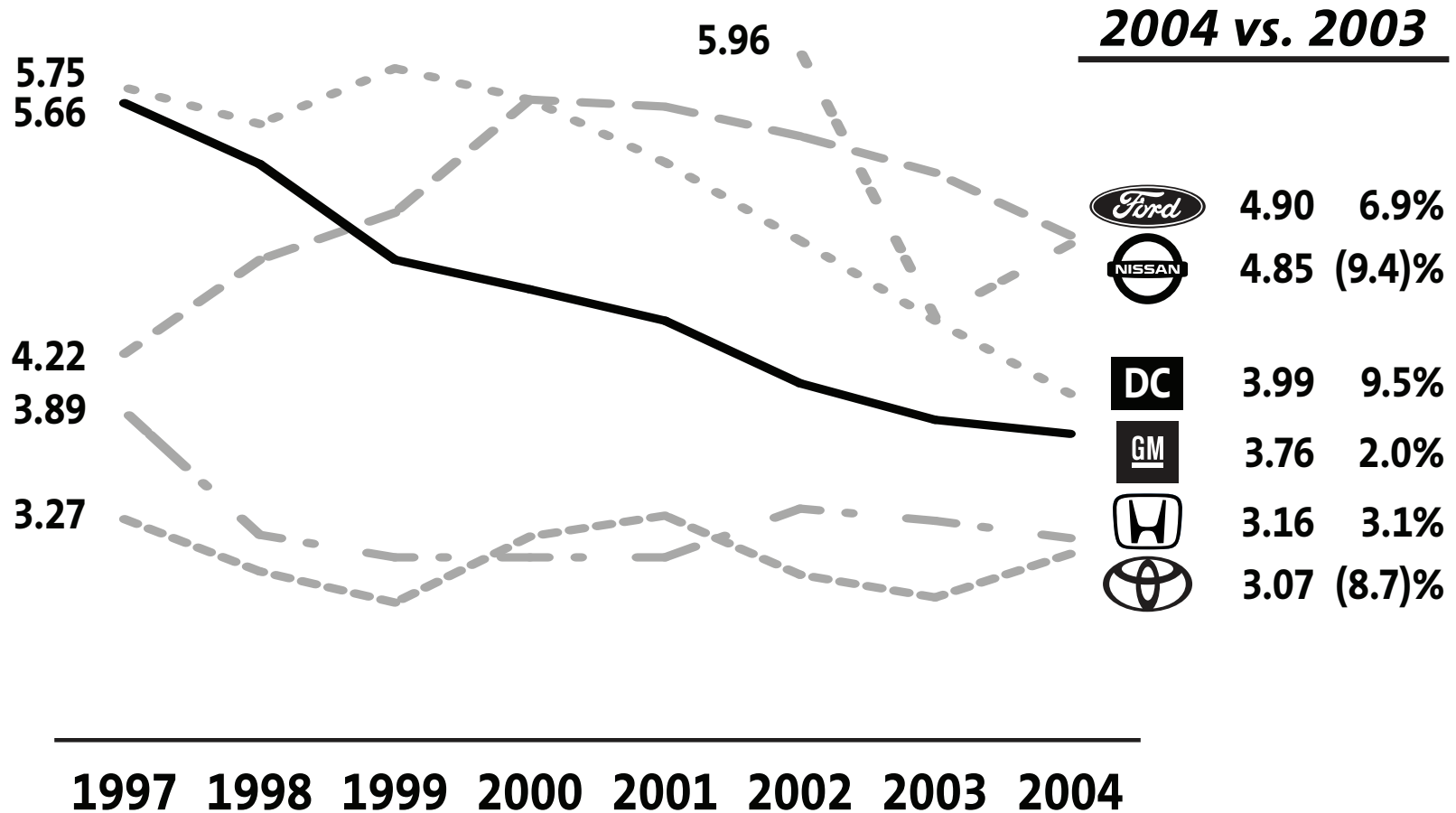
# *Stamping Rankings – Pieces per Hour*

Major Progressive Presses	
<b>1. GM Marion</b>	<b>2,677</b>
2. DCX Sterling Heights	2,474
<b>3. GM Parma</b>	<b>2,302</b>

Tandem Presses	
1. Honda Marysville	734
2. Toyota Georgetown	672
<b>3. GM Lansing</b>	<b>660</b>

Transfer Presses	
<b>1. GM Lansing</b>	<b>1,603</b>
<b>2. GM Lordstown</b>	<b>1,131</b>
3. Toyota Georgetown	935

# History of Engine Labor Productivity Hours per Engine



# ***Areas of Focus Going Forward***

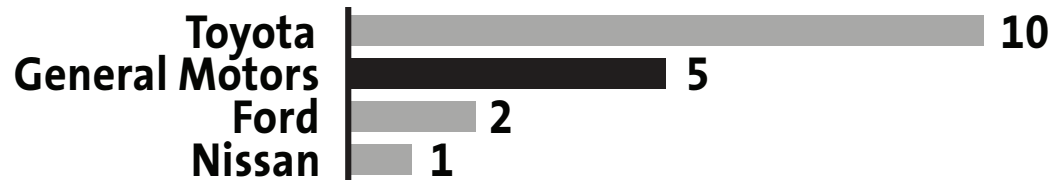
***Manufacturing operations continue to improve, but so does the competition. . .***

- Continue Lean Manufacturing implementation
- Continue focus on indirect labor
- Continue quality improvements
- Increase flexibility to support market fluctuations
- Focus on product design and seamless launches

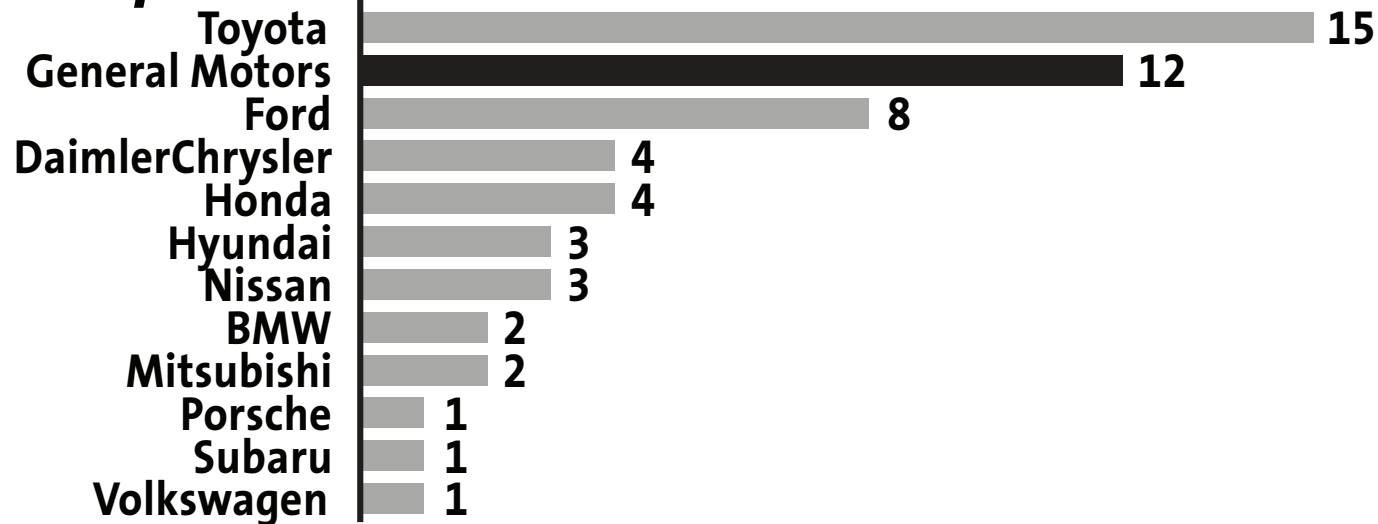
# Initial Quality

# 2005 J.D. Power Initial Quality

## # of Awards

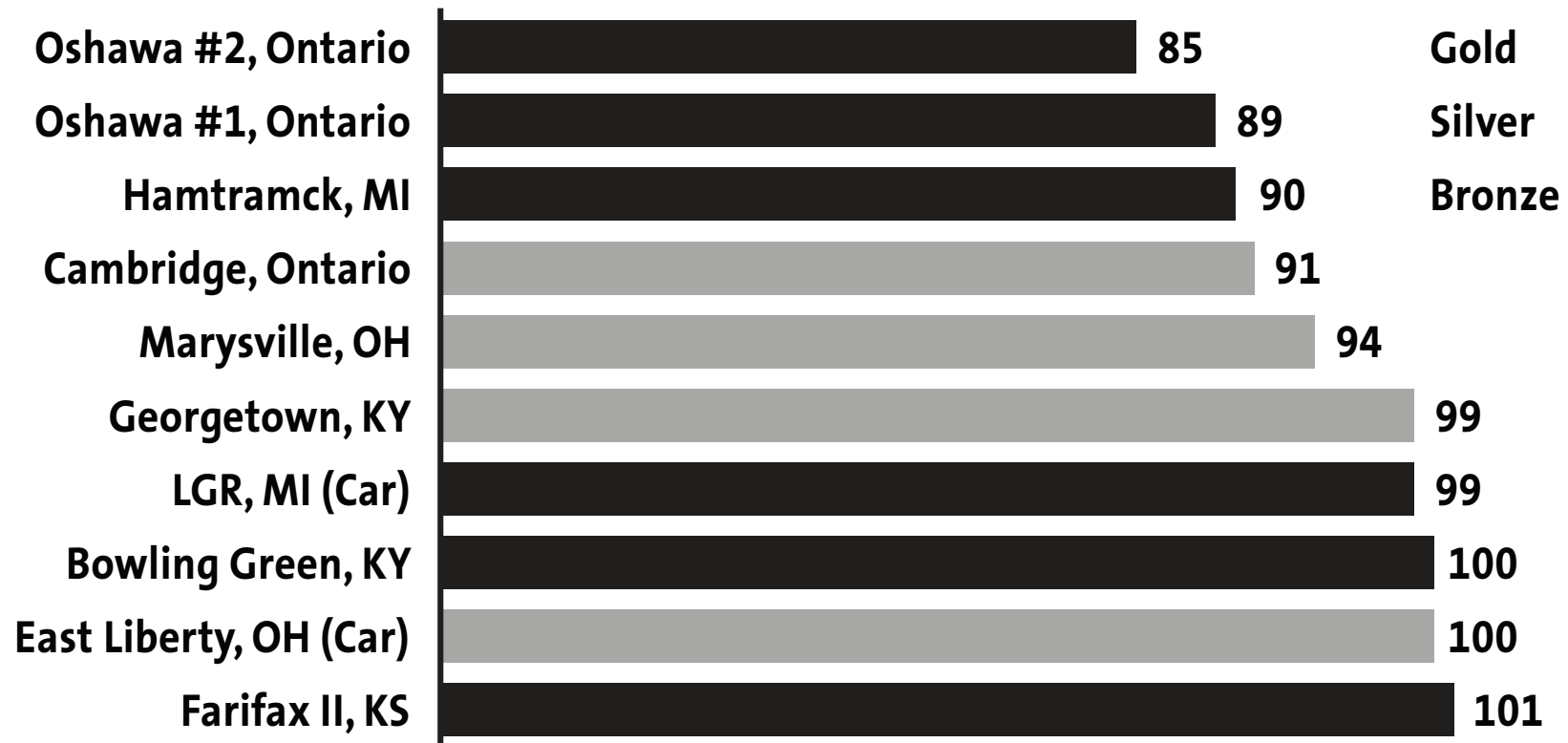


## # in Top 3



# 2005 J.D. Power Initial Quality

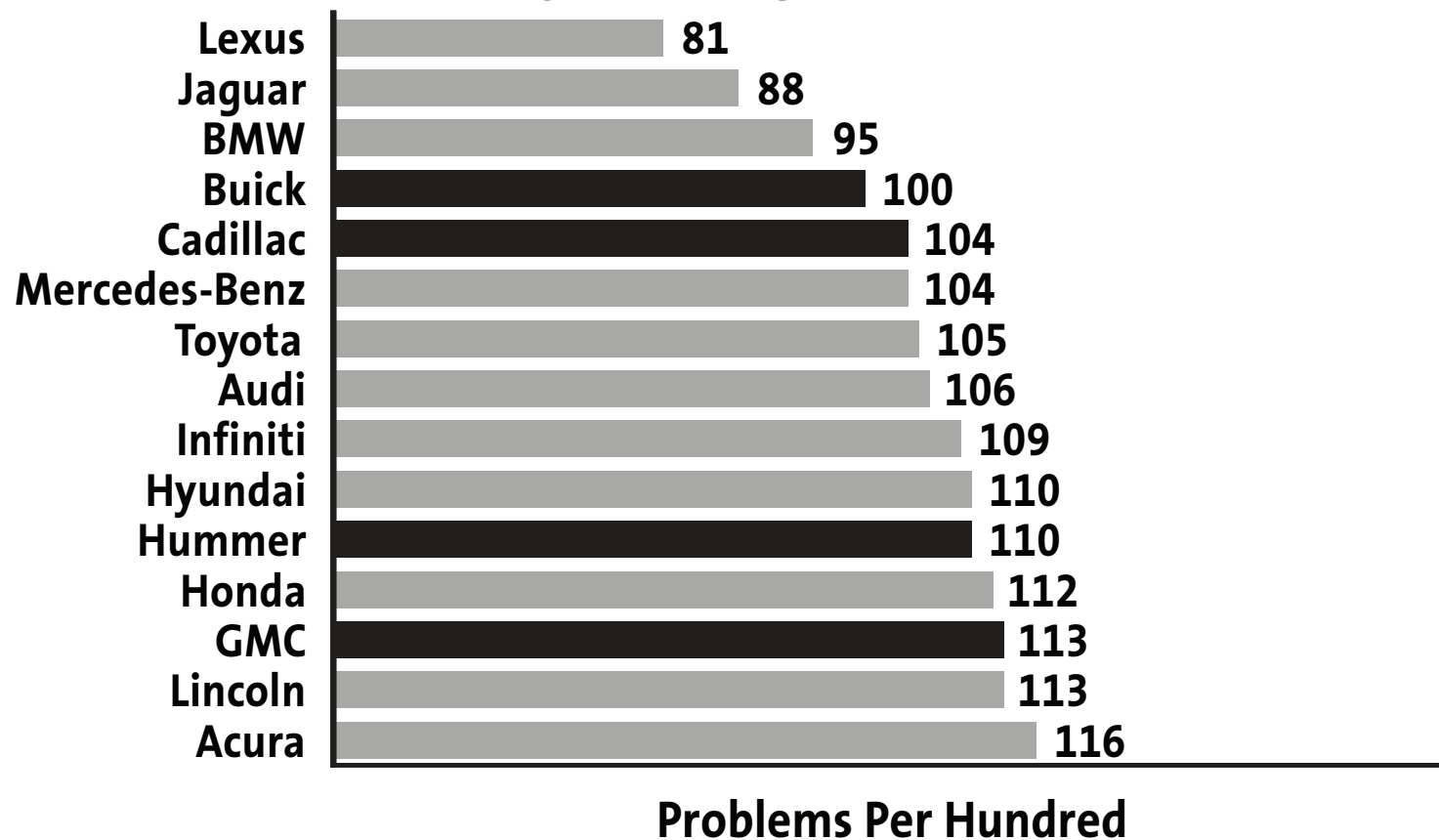
## North American Plant Rankings – GM 6 of Top 10



Problems Per Hundred

# 2005 J.D. Power Initial Quality

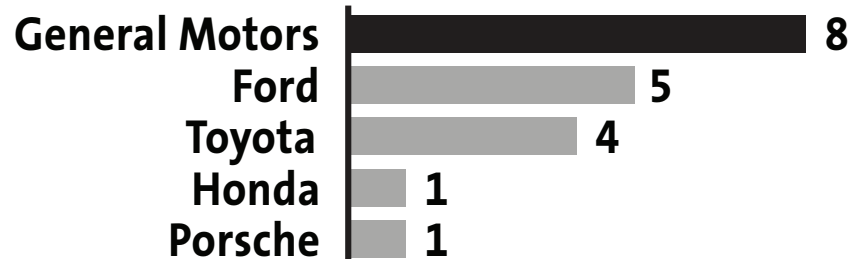
## Brands Above Industry Average



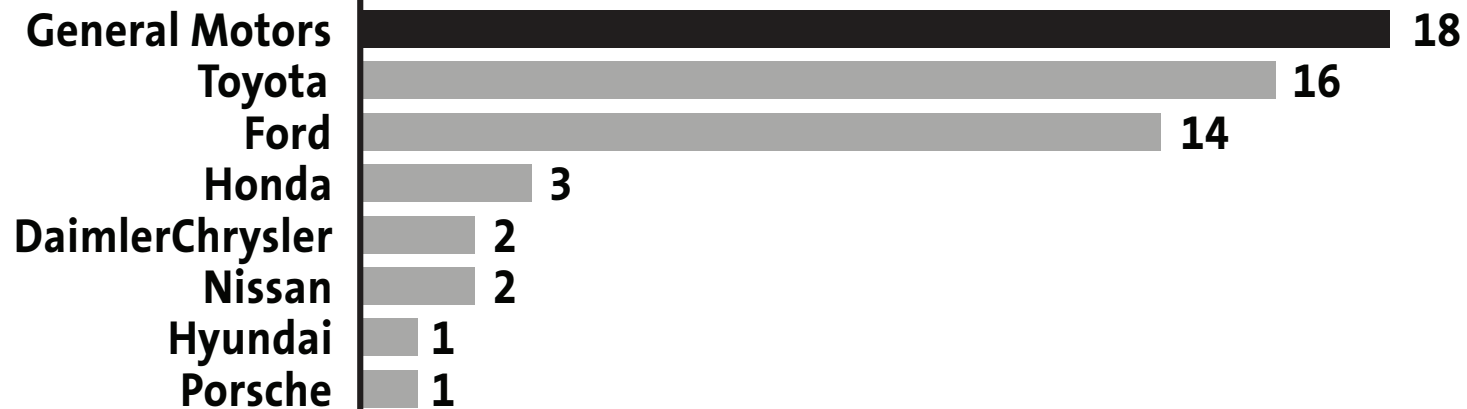
# Long-Term Quality

# 2005 J.D. Power Dependability

## # of Awards

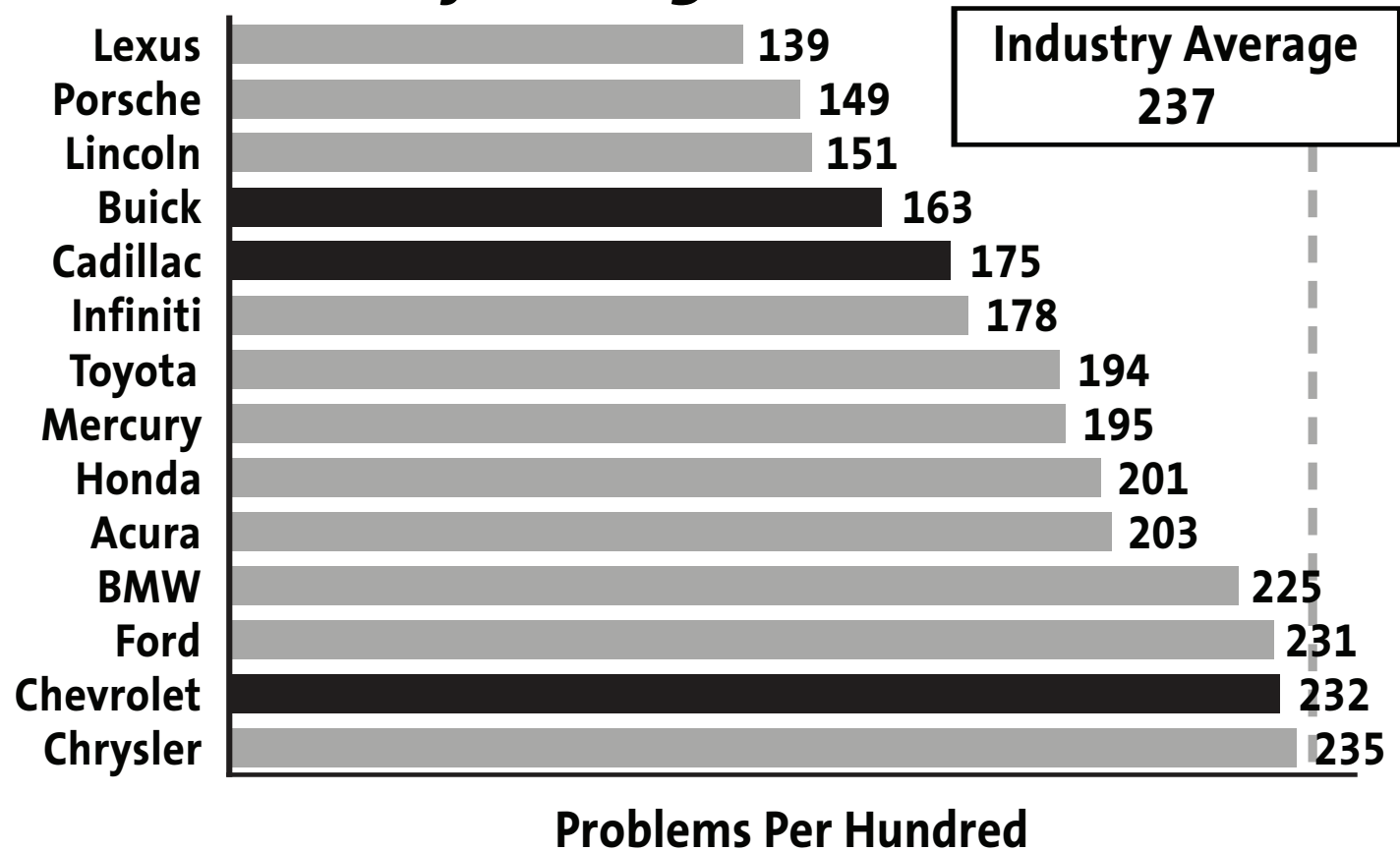


## # in Top 3



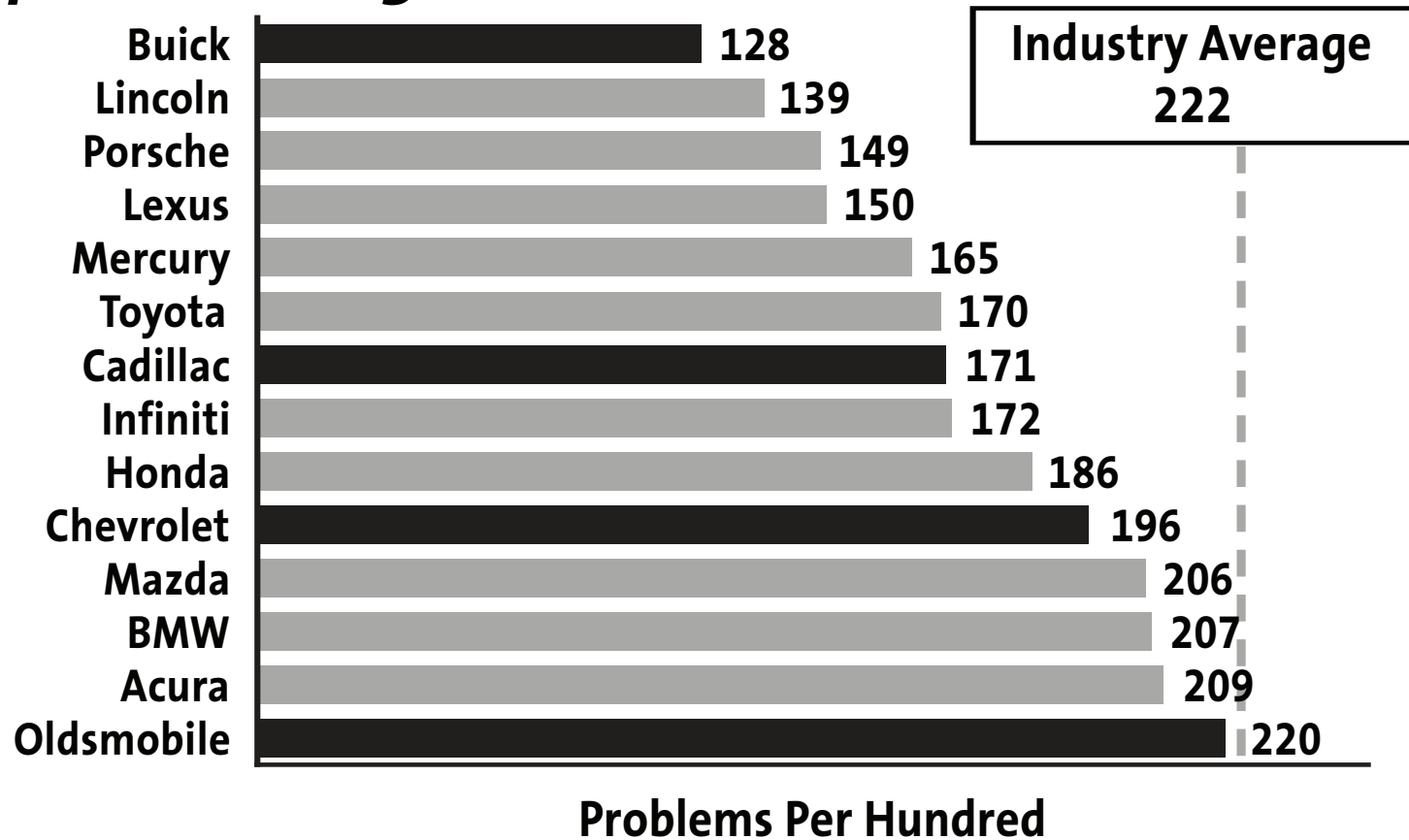
# 2005 J.D. Power Dependability

## Brands Above Industry Average



# 2005 J.D. Power Dependability

## Nameplate Rankings – Car



# Perceptual Quality

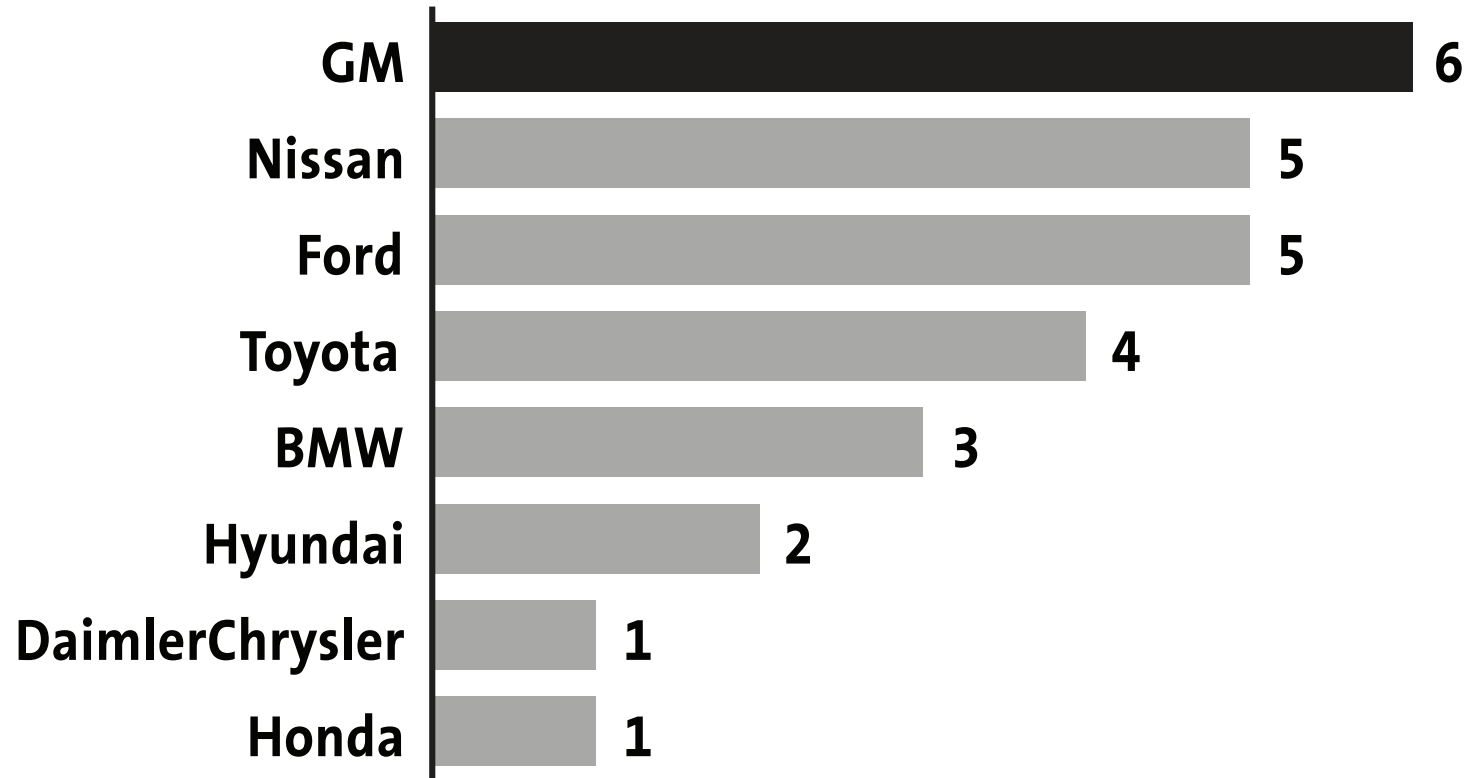


# TOTAL QUALITY AWARD



# *Strategic Vision 2005 Total Quality Study*

## *Number of Segment Winners*



Industry  
Leadership  
in  
Quality