Modernization of Uzbekistan Building Code (UBC) System

Establishing Process of National Standard System and Role of System Developer
(국가 표준 시스템의 구축 및 담당 조직의 역할)

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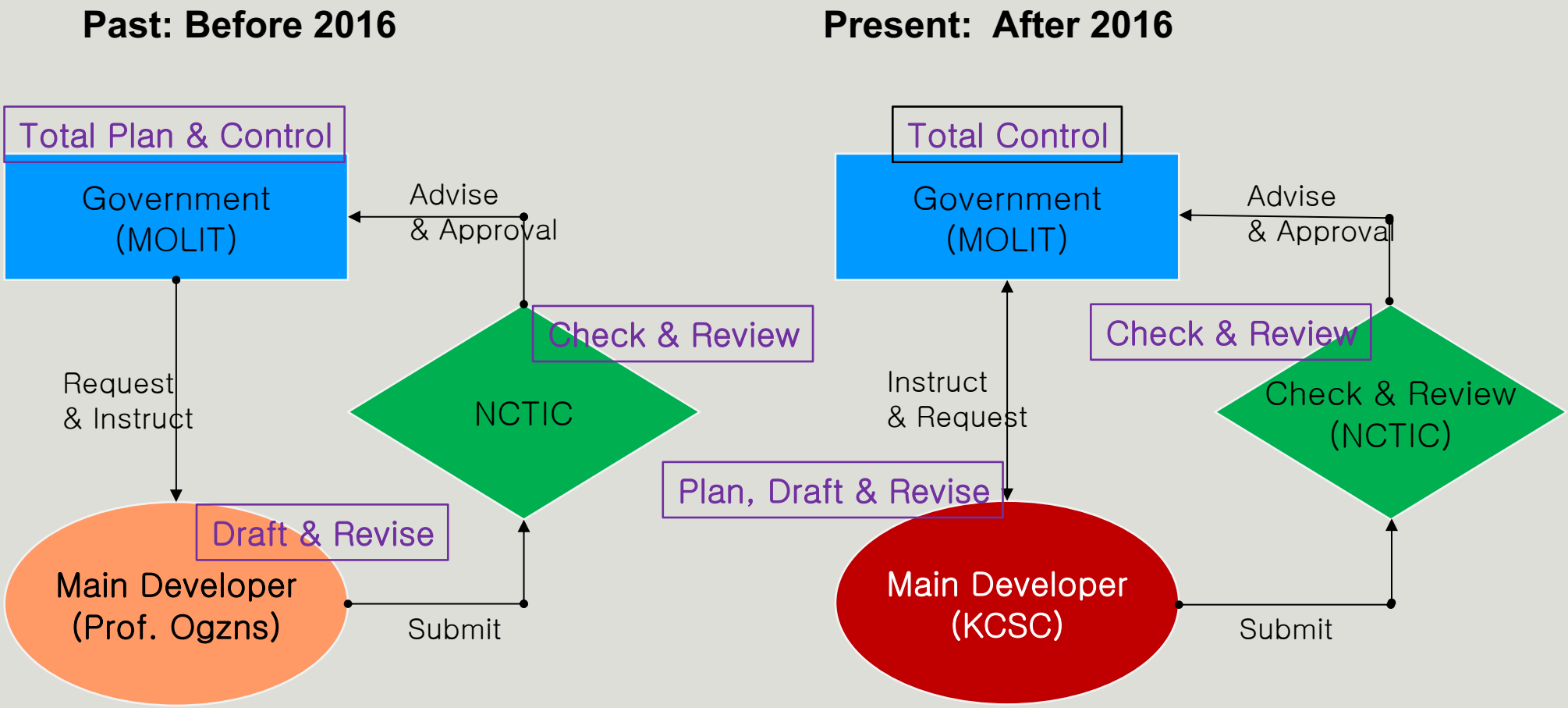


Professional Organizations
-Academic Institutes
-Industry Expert Associations

KCSC: Korea Construction Standard Committee composed of members from
-Academics, Industry experts, Research fellows

MOLIT: Ministry of Land, Infrastructure and Transport
NCTIC: National Construction Technology Inquiry Committee

I. Who will play a Main role for developing Codes & Standards?

- **Past Main Developers of Standards & Codes in Korea (Before 2016)**

Main Developers	Design Standards	Construction Standards	Main Developers	Design Standards	Construction Standards	Main Developers	Design Standards	Construction Standards
1. Korean Society of Civil Engineers		Civil Works Urban Railway Construction	**9. Society of Aircondition, Refrigerating**	Architectural Mechanical Works Design	Architectural Mechnical Works(HVAC)	**17. Seoul Municipality**		Special Specification for City Works
2. Korea Concrete Institute	Concrete Structure Design	Concrete Works	**10. Society of Steel Construction**	St'l Structure D. LRFD Design Method design		**18. Korea Rual Community Corporation**	Agricultural Production Infra System D.	Agricultural Civil Engineering W.
3.Architectural Institute of Korea	Architectural Structure Design	Architectural Construction	**11.Earthquake Engineering Society**	Seismic Design		**19. Korea Land & Housing Corporation**		Housing Construction Special Spec.
4. Korean Geotechnical Society	Structure Foundation Design		**12. Institute of Illuminating & Electrical**	Architectural Electrical System Design	Architectural Electrical Works	**20. Korea Water Coprporation**		Dam & Water Supply System Special Spec.
5. Korean Institute of Landscaping	Landscaping Design	Landscaping Works	**13. Temporary Equipement Association**		Temporary & False Works	**21. Korea Expressway Corporation**		Expressway Construction Special Spec.
6. Korea Road Association	Road Design Road Bridge D. Limit State D.	Road Construction Road Bridge C.	**14. Water & Wastewater Association**	Drinking Water Wastewater Facility Design	Drinking Water & Wastewater Facility Works	**22. D. Minister for Tech. Policy**		Construction Environmental Management
7. Korean Tunneling Association	Tunnel Design	Tunnel Construction	**15. Ports & Harbors Association**	Port & Fishery Harbor System design	Port & Fishery Harbor System Construction	**23. Authority of Infrasafety structure**	Earthworks for Slope & Utility Tunnel Designs	Earthworks for Slope & Utility Tunnel Constru.
8. Water Resource Association	River Design Dam Design	River & Channel Works	**16. Korea National Railway**	Railway System Design	Railway System Construction	**24. Authority for New Capital City**		Special Spec. for New Capital City

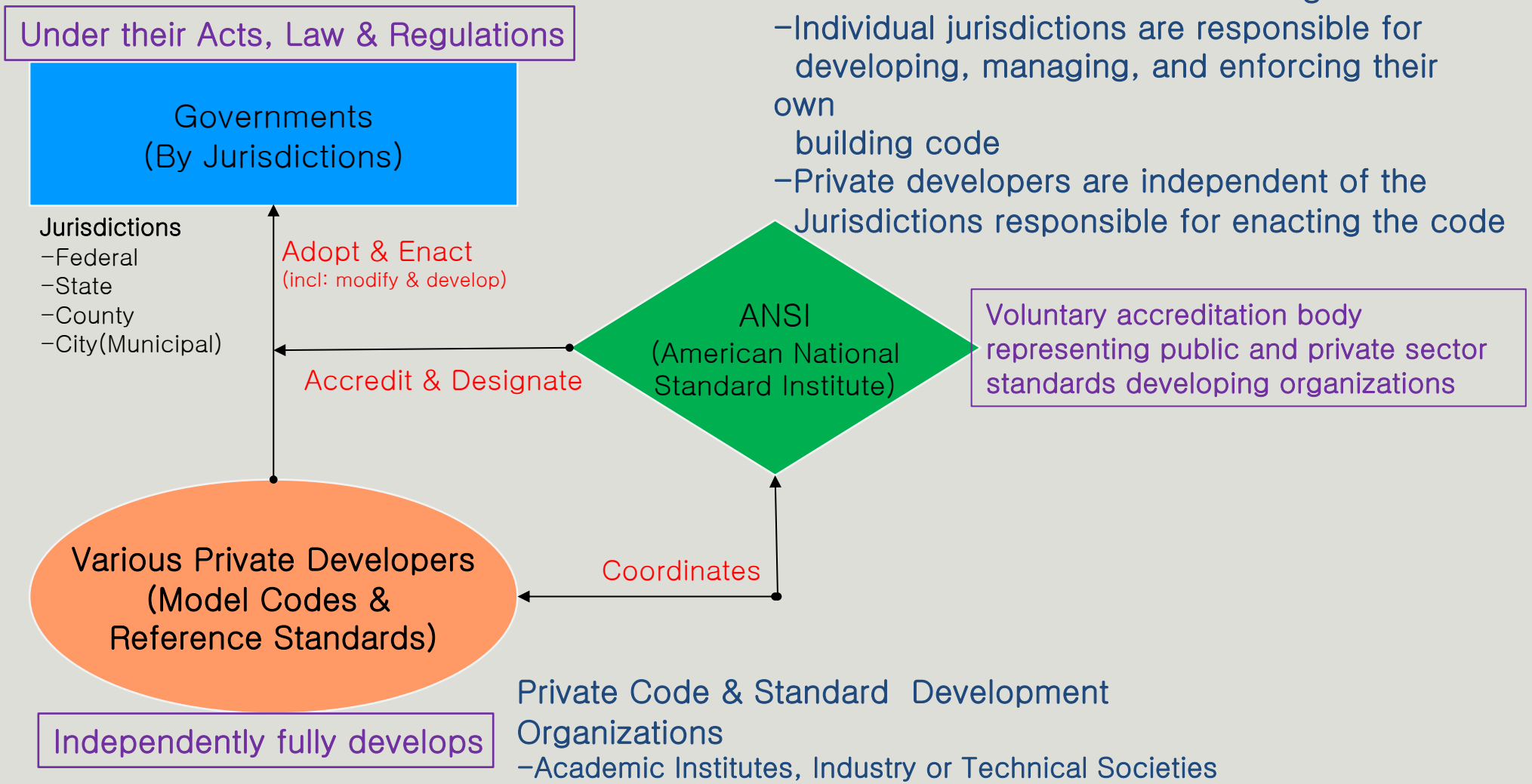
I. Who will play a Main role for developing Codes & Standards?

▪ Present Main Developers of Standards & Codes in Korea (After 2016)

Main Developers (Korea Construction Standards Committee)	Design Standard Code (KDS 00 00 00)	Construction Specification Code (KCS 00 00 00)	Construction Standards Committee	Design Standard Code (KDS 00 00 00)	Construction Specification Code (KCS 00 00 00)
1.Overall standards Committee	Overall (KDS 10 00 00)	Overall (KCS 10 00 00)	12.Architecure design standards Committee(30)	Architecture (KDS 41 00 00)	
2.Geotechnical standards Committee(30)	Geotechnical construction (KDS 11 00 00)	Geotechnical construction (KCS 11 00 00)	13.Architecture Construction standards Committee(30)		Architecture (KCS 41 00 00)
3.Concrete standards Committee(30)			14.Road standards Committee(30)	Road (KDS 44 00 00)	Road (KCS 44 00 00)
4.Steel construction standards Committee(30)	Steel construction (KDS 14 00 00)	Steel construction (KCS 14 00 00)	15.Utility Tunnel standards Committee		
5.Earthquake-resistant standards Committee(30)	Earthquake-resistant (KDS 17 00 00)	Earthquake-resistant (KCS 17 00 00)	16.Railroad standards Committee		
6.Temporary equipment standards Committee(28)	Temporary equipment (KDS 21 00 00)	Temporary equipment (KCS 21 00 00)	17.Railroad standards Committee	Railroad (KDS 47 00 00)	Railroad (KCS 47 00 00)
7.Bridge standards Committee(30)	Bridge (KDS 24 00 00)	Bridge (KCS 24 00 00)	18.River and Dam standards Committee	River (KDS 51 00 00) Dam (KDS 54 00 00)	River (KCS 51 00 00) Dam (KCS 54 00 00)
8.Tunnel standards Committee(30)	Tunnel (KDS 27 00 00)	Tunnel (KCS 27 00 00)	19.Water and Sewage standards Committee	Water (KDS 57 00 00) Sewage (KDS 61 00 00)	Water (KCS 57 00 00) Sewage (KCS 61 00 00)
9.Machinery equipment standards Committee(35)			20.Harbor and Fishing Port standards Committee	Harbor and Fishing Port (KDS 64 00 00)	Harbor and Fishing Port (KCS 64 00 00)
10.Electric-facilities standards Committee(30)	Facilities (KDS 31 00 00)	Facilities (KCS 31 00 00)	21.Agricultural facility standards Committee	Agricultural facility (KDS 67 00 00)	Agricultural facility (KCS 67 00 00)
11.Landscape standards Committee(30)	Landscape (KDS 34 00 00)	Landscape (KCS 34 00 00)			

I. Who will play a Main role for developing Codes & Standards?

- **Main Developer of Standards & Codes in United States**



–US does not have national building code
–Individual jurisdictions are responsible for developing, managing, and enforcing their own building code
–Private developers are independent of the Jurisdictions responsible for enacting the code

Private Code & Standard Development Organizations
–Academic Institutes, Industry or Technical Societies
–Design Professionals
–Construction Industry Representatives
–Manufacturers
–Local Officials

I. Who will play a Main role for developing Codes & Standards?

▪ Main Developers of Reference Standards & Model Codes in USA

AA: Aluminum Association
AAMA: American Architectural Manufacture Association
ANLA: American Nursery and Landscape Association
AASHTO: American Association of State Highway and Transportation Officials
ACI: American Concrete Institute
AFBMA: Anti-Friction Bearing Manufactures Association
AGMA: American Gear Manufacturer Association
AHA: American Hardboard Association
AIA: American Institute of Architects
AIAA: American Institute of Aeronautics and Astronautics
AIEE: American Institute of Electrical Engineers
AISC: American Institute of Steel Construction
AITC: American Institute of Timber Construction
ALSC: American Lumber Standards Committee
AMCA: American Movement and Control Association
MHIA: Material Handling Industry of America
ANS: American Nuclear Society
ANSI: American National Standards Institute
API: American Petroleum Institute
AREMA: American Railway Engineering and Maintenance Ass.
ARI: American Conditioning and Refrigeration Institute
ASAE: American Society of Agricultural Engineers
ASCE: American Society of Civil Engineers
ASHRAE: American Society of Heat, Refri, Aircon Engineers
ASME: American Society of Mechanical Engineers
ASNT: American Society for Nondestructive Testing
ASQC: American Society for Quality Control
ASSE: American Society of Sanitary Engineers
ASTM: American Society of Testing and Materials
AWI: Architect Woodwork Institute
AWMA: Aluminum Window Manufacturers Association
AWPI: American Wood Preservers' Institute
AWS: American Welding Society
AWWA: American Water Works Association
BHMA: Builders Hardware Manufacturers Association
BIFMA: Business and Institutional Furniture Manufacturers As.
CAPPA: Crusher and Portable Plant Association
CEC: Consulting Engineers Council
CEMA: Conveyor Equipment Manufacturers Association
CGA: Compressed Gas Association
CMAA: Crane Manufacturers Association of America
CRSI: Concrete Reinforcing Steel Institute
CSI: Construction Specification Institute
DFPA: Douglas Fir Plywood Association
EIA: Electronic Industries Association
FCI: Flood Controls Institute
FMS: Factory Manual System
HIMA: Health Industry Manufacturers Association
HPMA: Hardwood Plywood Manufacturers Association
HPSSC: Health Physics Society Standards Committee
HTI: Hand Tools Institute
ICC: International Code Council
ICEA: Insulated Cable Engineers Association

I. Who will play a Main role for developing Codes & Standards?

▪ Main Developers of Reference Standards & Model Codes in USA

IEEE: Institute of Electrical and Electronics Engineers
IES: Illuminating Engineering Society
IIAR: International Institute of Ammonia Refrigeration
IME: Institute of Makers of Explosives
IPC: Institute of Printed Circuits
IPCEA: Insulated Power Cable Engineers Association
ISA: Instrument Society of America
ISANTA: International Staple, Nail and Tool Association
ISDSI: Insulated Steel Door Systems Institute
ISEA: Industrial Safety Equipment Association
ISO: International Organization for Standardization
ITE: Institute of Traffic Engineers
MBMA: Metal Building Manufacturers Association
MSS: Manufacturers Standardization Society
NAAMM: National Ass. of Architectural Metal Manufacturers
NBS: National Bureau of Standards
NEC: National Electrical Code
NEMA: National Electrical Manufacturers Association
NFPA: National Fire Protection Association
NFSA: National Fertilizer Solution Association
NKCA: National Kitchen Cabinet Association
NPC: National Plumbing Code
NRC: Nuclear Regulatory Commission
NSPE: National Society of Professional Engineers
NWMA: National Woodwork Manufacturers Association
NWWDA: National Wood Window and Door Association
OPEI: Outdoor Power Equipment Institute
OSHA: Occupational Safety and Health Administration
PCA: Portland Cement Association
PDCA: Painting and Decorating Contractors of America
PFI: Pipe Fabrication Institute
PPI: Plastic Pipe Institute
PTI: Power Tool Institute
RIA: Robotic Industries Association
RMA: Rubber Manufacturers Association
SAE: Society of Automotive Engineers
SAMA: Scientific Apparatus Makers Association
SDI: Steel Door Institute
SEM: Society of Experimental Mechanics
SJI: Steel Joint Institute
SMACNA: Sheet Metal and Air Conditioning Contractors Nat
SMPTE: Society of Motion Picture and Television Engineers
SNT: Society for Nondestructive Testing
SPI: Society of Plastics Industry
SSPC: Steel Structures Painting Council
UL: Underwriters Laboratories
VRCI: Factory Manual System
Vol. Prod. Std: Variable Resistive Components Institute
WPCF: Water Pollution Control Federation

The list provides the names of the more prevalent organizations that establish model codes and reference standards in US

I. Who will play a Main role for developing Codes & Standards?

- **ASCE as A Main Developer of Reference Standards in USA**

STANDARDS

ASCE's Reference Standards

In 2006, the Board of Direction approved the revision to the ASCE Rules for Standards Committees to govern the writing and maintenance of standards developed by the Society. All such standards are developed by a consensus standards process managed by the Society's Codes and Standards Committee (CSC). The consensus process includes balloting by a balanced standards committee made up of Society members and nonmembers, balloting by the membership of the Society as a whole, and balloting by the public. All standards are updated or reaffirmed by the same process at intervals not exceeding five years.

The following standards have been issued:

★ ANSI/ASCE 1-82 N-725 Guideline for Design and Analysis of Nuclear Safety Related Earth Structures

ASCE/EWRI 2-06 Measurement of Oxygen Transfer in Clean Water

★ ANSI/ASCE 3-91 Standard for the Structural Design of Composite Slabs and ANSI/ASCE 9-91 Standard Practice for the Construction and Inspection of Composite Slabs

ASCE 4-98 Seismic Analysis of Safety-Related Nuclear Structures

Building Code Requirements for Masonry Structures (ACI 530-02/ASCE 5-02/TMS 402-02) and Specifications for Masonry Structures (ACI 530.1-02/ASCE 6-02/TMS 602-02)

ASCE/SEI 7-10 Minimum Design Loads for Buildings and Other Structures

SEI/ASCE 8-02 Standard Specification for the Design of Cold-Formed Stainless Steel Structural Members

★ ANSI/ASCE 9-91 listed with ASCE 3-91

ASCE 10-97 Design of Latticed Steel Transmission Structures

SEI/ASCE 11-99 Guideline for Structural Condition Assessment of Existing Buildings

ASCE/EWRI 12-05 Guideline for the Design of Urban Subsurface Drainage

ASCE/EWRI 13-05 Standard Guidelines for Installation of Urban Subsurface Drainage

ASCE/EWRI 14-05 Standard Guidelines for Operation and Maintenance of Urban Subsurface Drainage

ASCE 15-98 Standard Practice for Direct Design of Buried Precast Concrete Pipe Using Standard Installations (SIDD)

★ ANSI/ASCE/T&DI 21.4-08 Automated People Mover Standards—Part 4

SEI/ASCE 23-97 Specification for Structural Steel Beams with Web Openings

ASCE/SEI 24-05 Flood Resistant Design and Construction

ASCE/SEI 25-06 Earthquake-Actuated Automatic Gas Shutoff Devices

ASCE 26-97 Standard Practice for Design of Buried Precast Concrete Box Sections

ASCE 27-00 Standard Practice for Direct Design of Precast Concrete Pipe for Jacking in Trenchless Construction

ASCE 28-00 Standard Practice for Direct Design of Precast Concrete Box Sections for Jacking in Trenchless Construction

ASCE/SEI/SFPE 29-05 Standard Calculation Methods for Structural Fire Protection

SEI/ASCE 30-00 Guideline for Condition Assessment of the Building Envelope

SEI/ASCE 31-03 Seismic Evaluation of Existing Buildings

SEI/ASCE 32-01 Design and Construction of Frost-Protected Shallow Foundations

EWRI/ASCE 33-09 Comprehensive Transboundary International Water Quality Management Agreement

EWRI/ASCE 34-01 Standard Guidelines for Artificial Recharge of Ground Water

EWRI/ASCE 35-01 Guidelines for Quality Assurance of Installed Fine-Pore Aeration Equipment

CI/ASCE 36-01 Standard Construction Guidelines for Microtunneling

SEI/ASCE 37-02 Design Loads on Structures during Construction

CI/ASCE 38-02 Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data

EWRI/ASCE 39-03 Standard Practice for the Design and Operation of Hail Suppression Projects

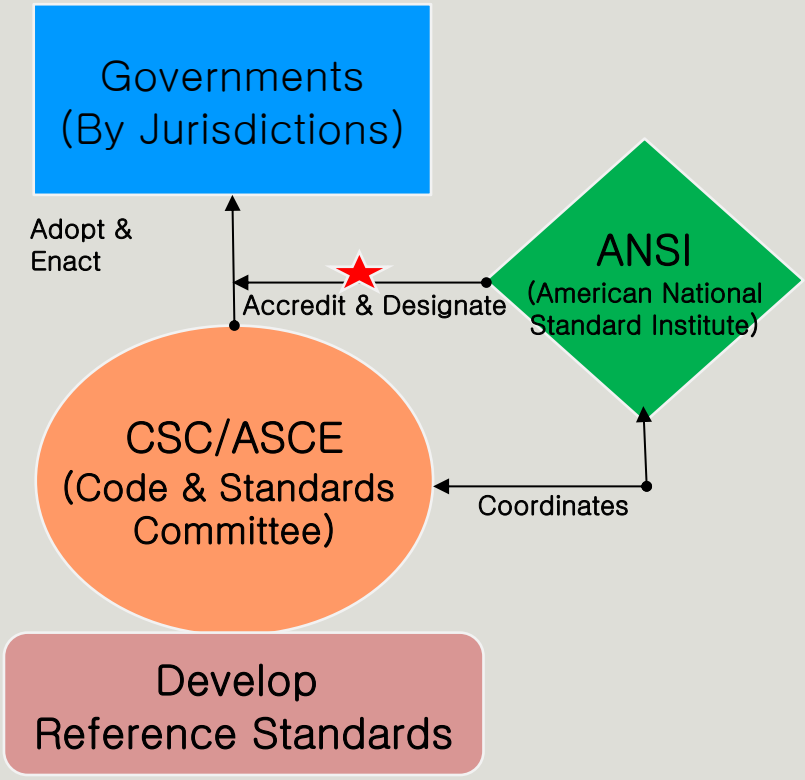
ASCE/EWRI 40-03 Regulated Riparian Model Water Code

ASCE/SEI 41-06 Seismic Rehabilitation of Existing Buildings

ASCE/EWRI 42-04 Standard Practice for the Design and Operation of Precipitation Enhancement Projects

ASCE/SEI 43-05 Seismic Design Criteria for Structures, Systems, and Components in Nuclear Facilities

ASCE/EWRI 44-05 Standard Practice for the Design and Opera-



① ASCE has no authority to enforce compliance with its standards.

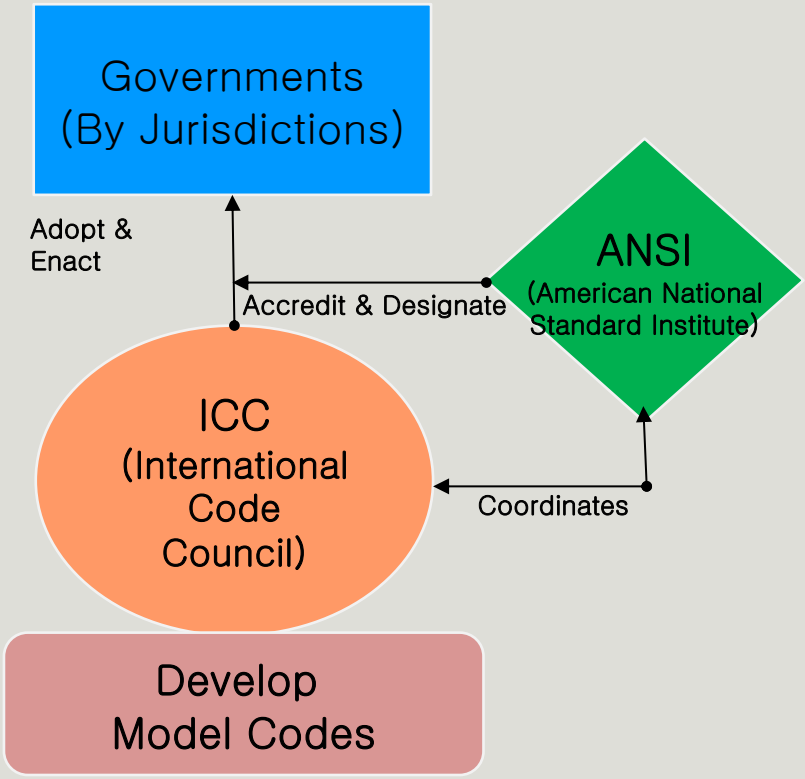
② ASCE's reference standards are registered in US patent and trade mark office.

I. Who will play a Main role for developing Codes & Standards?

▪ ICC as A Main Developer(Agency) of Model Codes in USA

ICC's Model Codes
(International Code Council)

IBC: International Building Code
IRC: International Residence Code
IPMC: International Property Maintenance Code
ISPSC: International Swimming Pool and Spa Code
IMC: International Mechanical Code
IFC: International Fire Code
IFGC: International Fuel Gas Code
IEBC: International Existing Building Code
IPC: International Plumbing Code
IECC: International Energy Conservation Code
IPSPC: International Private Sewage Disposal Code
IWUIC: International Wild land – Urban Interface Code
IZC: International Zoning Code



① Model codes are developed by private code agencies for subsequent adoption by local and state government
agencies as legally enforceable regulations.
② The model codes have no force of law unto themselves. Only after adoption by a government agency are they

II. What kind of Code and Standard Systems will we develop?

▪ Definition of Building Code

By Good Technology

For Public Interest

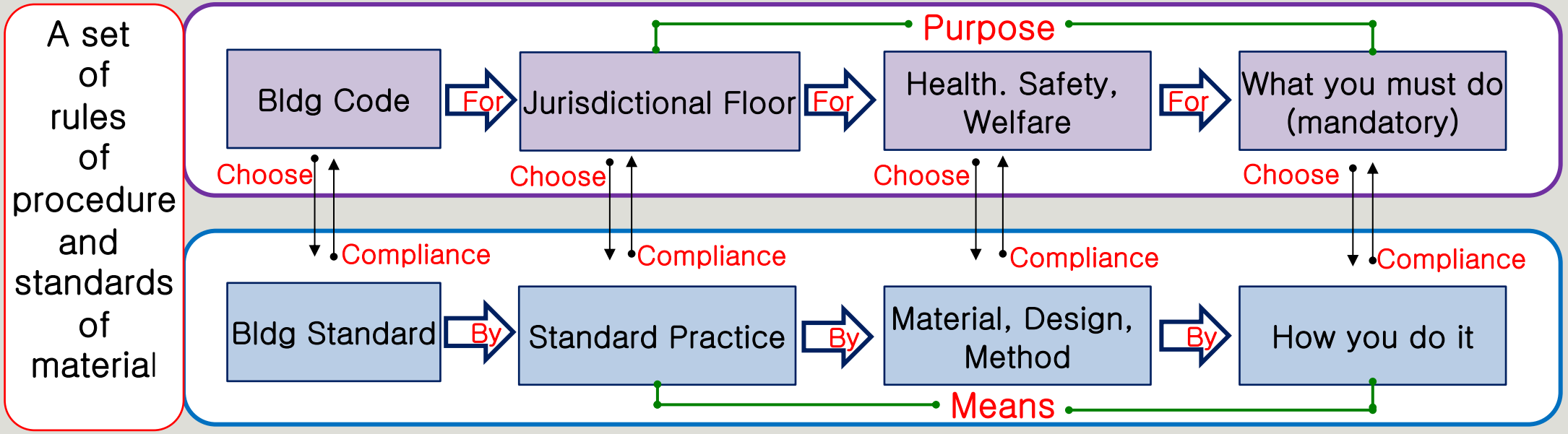
A set of rules of procedure and standards of materials designed to secure uniformity and protect the public interest in such matters as building construction and public health, established usually by a public agency and commonly having the force of law in a particular jurisdiction. (Webster's Dictionary)

With Legal Enforcement

• Relationship between Building Codes and Standards

A Building Code establishes a jurisdictional "floor" relative to occupants' health, safety, and welfare.

A Building Standard is a "standard practice" often referred to within the codes.



II. What kind of Code and Standard Systems will we develop?

▪ Distinction between Code and Standard

Example in Fire System

Code: What you must do	Do we must install sprinklers? Yes or no?	Regulations for the purpose of safety
Standard: Guide on How you do it	If yes, guide on sprinkler head flow rates, spacing, operation temperature, durability, etc.	Means for compliance with the Regulations

Code Developing Process

Material, Design, Method Satisfactory to and Compliant with Code Requirements		Public Interest for Health, Safety, Welfare		Jurisdictional Legal Requirement
Various Reference Standards By Developers	Choose	Various Model Codes By Agencies	Adopt Modify Add Develop	Jurisdictional Codes By Governments
ASCE ASTM ACI AASHTO		ANSI ICC NEC NPC		FEDERAL STATE COUNTY MUNICIPALITY

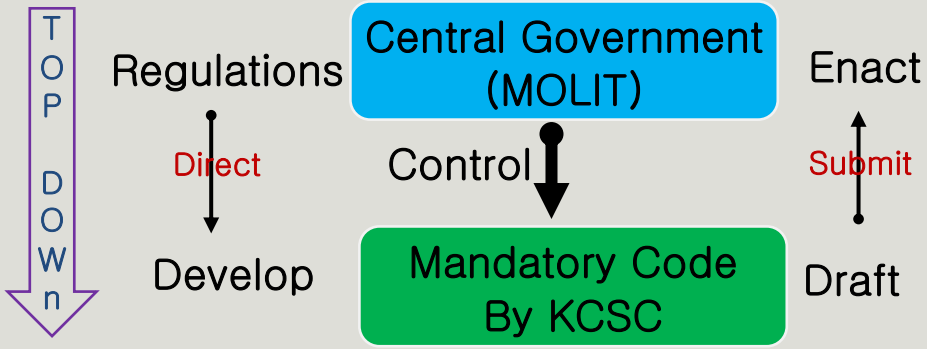
AHJ: Authorities Having Jurisdictions

II. What kind of Code and Standard Systems will we develop?

▪ Major Code and Standard Systems in the World (APEC)

Korea Code System

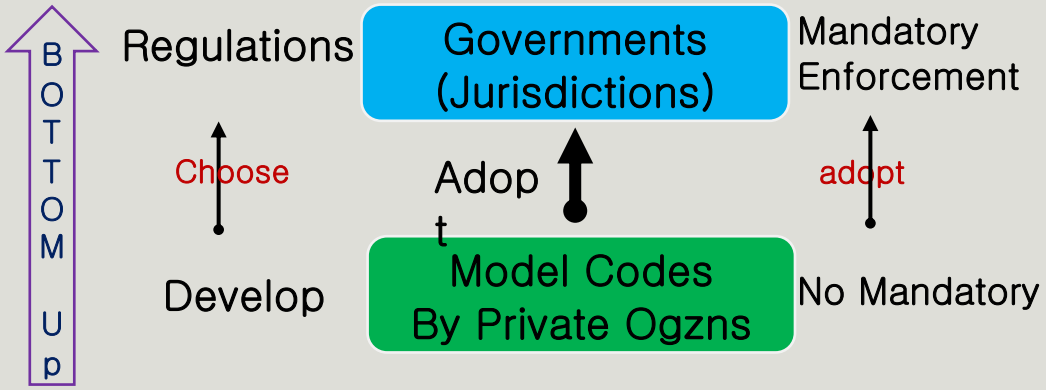
Mandatory Code developed alongside building regulations by the Central Government



. Mandatory Codes compliant with building regulations are developed
and provided under control of Central Government
. Similar in Japan, Taipei, Chile, Peru, Vietnam, China, Indonesia

US Code System

Model Code developed separate from building regulations of Jurisdictions



. No National Building Code are provided by Central Government
. Individual Jurisdictions are responsible for providing their own building codes
. Model Codes become mandatorily enforceable if
they are adopted by Jurisdictional Governments
. Similar in Canada, Australia

Hong Kong Code System

Building regulations specify use of best practice and standards but allow equivalent

. HK does not have a Code System
. Building regulations do not cite code, but all standards and Codes of practice are strongly recommended
. Building regulations are mandatory and are the minimum standard required
. Failure to comply with some of the regulations is
considered a criminal act

III. Why are Codes and Standards Living Documents?

- **Codes and Standards change depending on different Times and Regions**

Times		Regions		Codes and Standards
With advances in –Technology –Economy –Globalization	+	With Characteristics in –Natural Condition –Social System –Legal Regulation	=	Constantly Changes and Different

Codes and Standards are Living Documents.
It is subject to regular review and comment cycles.
A new codes and standards are published at regular intervals, usually every three to five years.

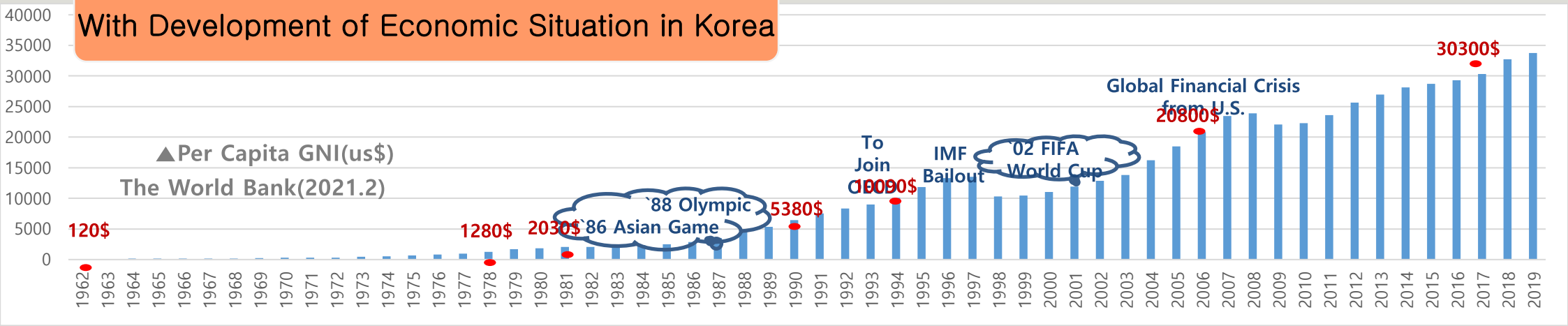
With advances in technology, competition, and the globalization of our economy, it is critical that building codes be dynamic and provide a pathway for the approval of new and innovative materials, designs, and methods of construction.

All too often practitioners assume that codes and standards they have been using in one jurisdiction are the same as these in new local for their practice.
That is often not the case and can lead to a lack of code compliance for some projects.

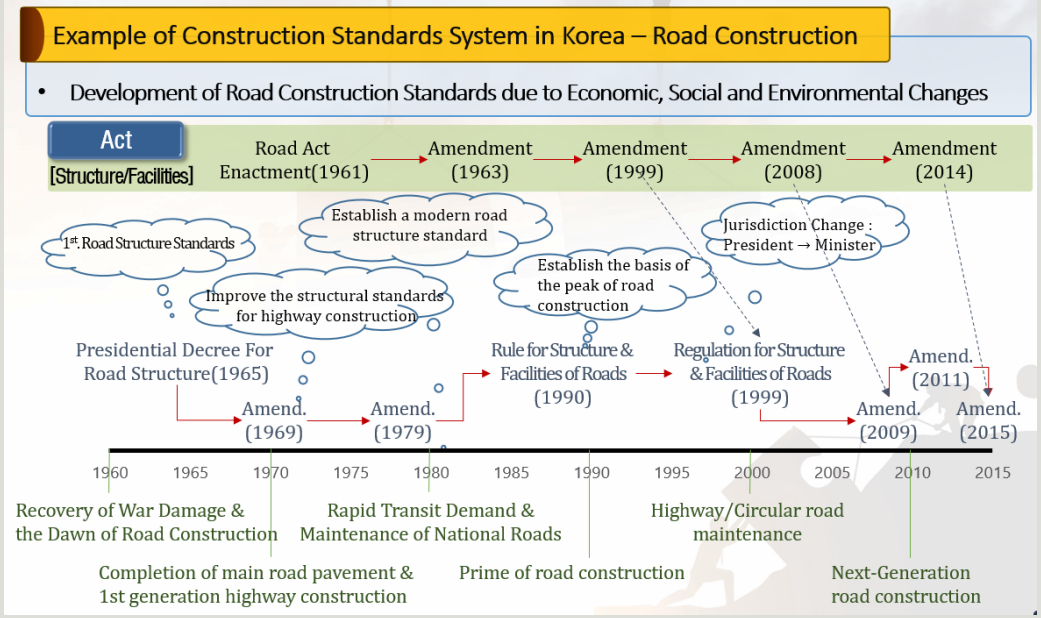
III. Why are Codes and Standards Living Documents?

▪ Codes and Standards change depending on different Times in Korea

With Development of Economic Situation in Korea



With Advances in Technology



Revision History of Korea Standards

Structure Foundation Design

Revision	Contents
Dec. 1971	First Edition
Nov. 1986	Regulation Change
Dec. 2002	Technology Development
Nov. 2008	Regulation Change
Feb. 2014	New Technology & Method
May. 2016	Sinkhole Problem

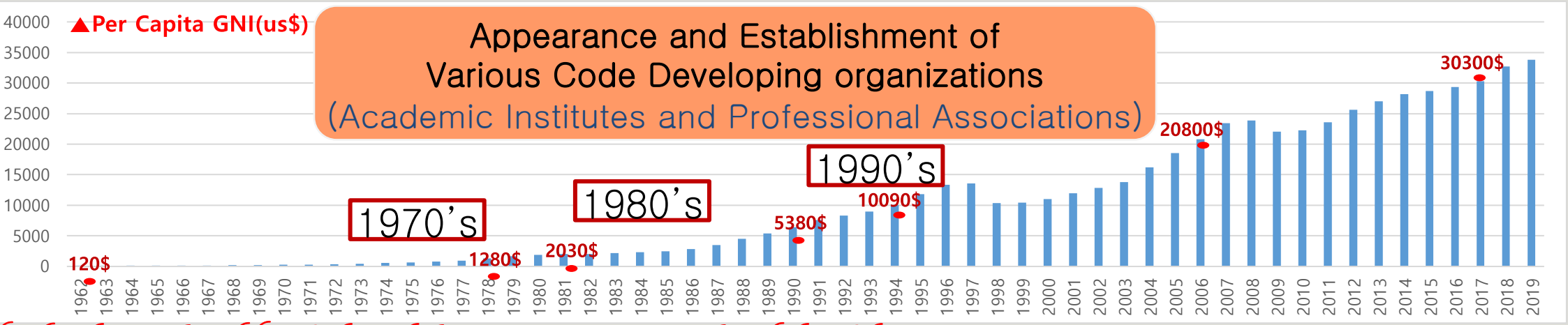
Architectural Structure Design

Revision	Contents
Apr. 2005	First Edition
Aug. 2009	Regulation Change
Dec. 2009	Partial Change
Dec. 2013	Regulation Change
Oct. 2015	Snow Load Change
May. 2016	Performance-Based Design Method

III. Why are Codes and Standards Living Documents?

- **Codes and Standards change depending on different Times in Korea**

Times		Regions		Codes and Standards
With advances in –Technology –Economy –Globalization	+	With Characteristics in –Natural Condition –Social System –Legal regulation	=	Constantly Changes and Different



(1945) Architectural Institute of Korea
(1951) Korea Society of Civil Engineers
(1962) Korea Housing Corporation
(1966) Korea Road Association
(1967) Korea Water Resources Association
(1967) Korea Water Corporation(K-Water)
(1969) Korea Expressway Corporation
(1970) Korea Rural Community Corporation
(1971) Society of Air-Conditioning, Refriger.
(1972) Korea Institute of Landscape Archite.
(1975) Korea Land Corporation
(1976) Korea Ports & Habors Association
(1984) Korean Geotechnical Institute
(1987) Korea Institute of Illuminating
(1989) Korea Concrete Institute
(1992) Korea Society of Steel Construction
(1992 Korean Tunneling Association
(1995) Korea National Railway
(1996) Korea Authority of Land & Infrasafety
(1996) Earthquake Engineering Society
(1996) Korea Temp. Equipment Association
(2001) Korea Water & Wastewater Association

III. Why are Codes and Standards Living Documents?

- **Codes and Standards change depending on different Times in Korea**

Times		Regions		Codes and Standards
With advances in –Technology –Economy –Globalization	+	With Characteristics in –Natural Condition –Social System –Legal regulation	=	Constantly Changes and Different

Development of Science & Technology	Structural Engineering Design Methods	Steel Structure Design Standard	Road Bridge Design Standard	Concrete Structure Design Standard	Concrete Structure Foundation Design Standard
Conventional Design Methods (Material-Based)	Limit Design Method (강도설계법)		Basic Method for Concrete (2010)	★ Basic Method	
	Allowable Stress Design Method (허용응력설계법)	Basic Method (2004)	Basic Method for Steel (2010)		★ Basic Method (2008)
New Design Methods (Performance-Based)	Load & Resistance Factor Design Method (하중저항계수설계법/ASSHTO)	★ New Adoption (2009)		★ Inconsistency between Upper and Lower Structure Design Methods	
	Limit States Design (한계상태설계법/CEN)		New Adoption For Conc' & Steel (2012)		

III. Why are Codes and Standards Living Documents?

▪ Heirarchical Order Structure of Codes and Standards in Korea

Legal Regulations

Decrees
Acts
Laws

BY Government (MOLIT)

Approval & Adoption

Control By Gov.

Upper Level Technical Specification

National Design Standards
National Construction Standards

BY Code & Standard Developers
Now: Korea Standard Committee
Past: Professional Organizations

Report & Approval

Reference
No Control By Gov.

Lower Level Technical Specification

Guideline(지침)
Handbook(편람)
Know-How(요령)
Manual(해설)
Standard Drawings(표준도)
Special Specifications(특별시방서)

BY Professional Organizations

Academic Institutes
Industry Expert Associations
Government owned Corporations

For Road & Highway

Law(법)	Road & Expressway
Presidential Decree(대통령령)	Road Decree Expressway Decree
Enforcement Regulations(부령)	Structure & facility Regulations
Instructions(훈령)	Disaster Prevention, Environmental-friendly

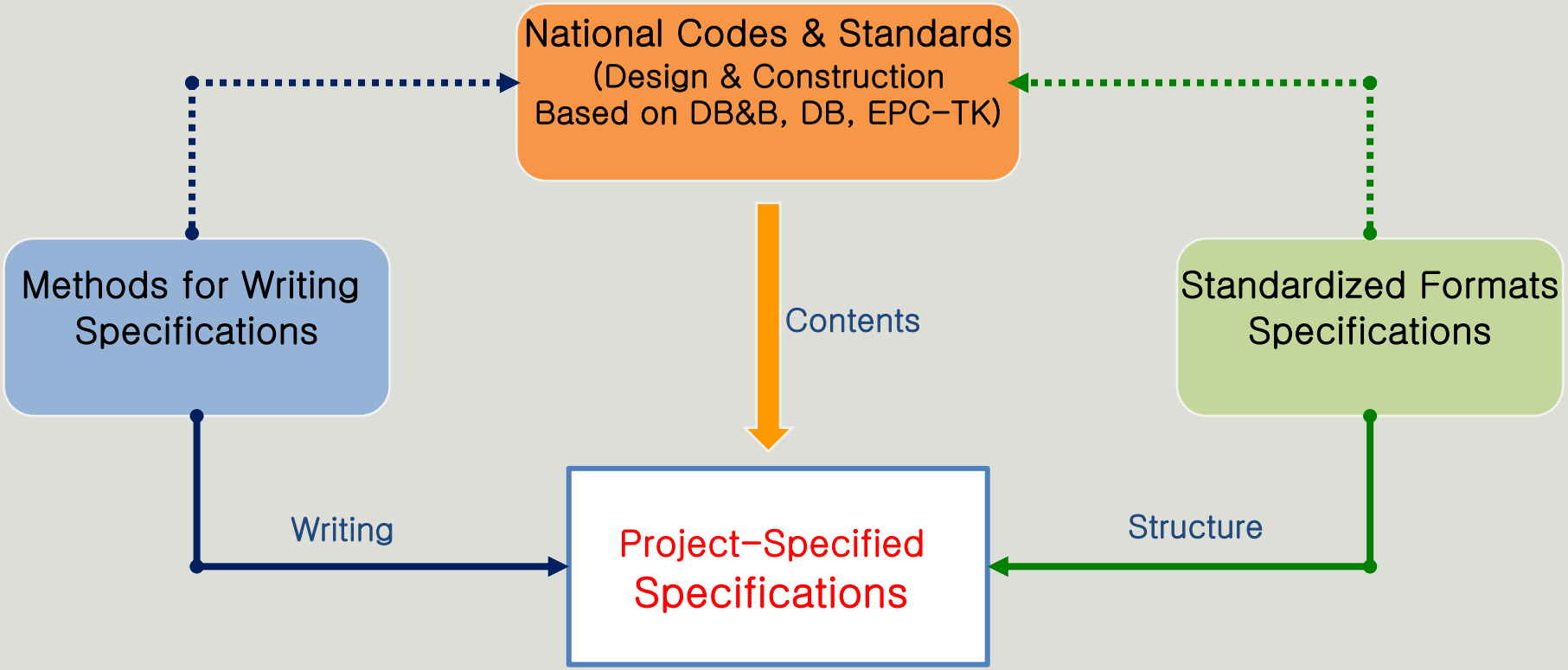
National Design Standards	Road, Road Bridge, Structure Foundation River & Stream Concrete Structure, Tunnel
National Construction Standards	Road, Civil Works, Road Bridge, Concrete, Tunnel

Know-how for Road Design practice,
Guideline for Planning of Road Alignment,
Handbook for Environmental-friendly Road,
Standard Drawing for Retaining Walls,
Manual for Road Structures & Facilities,
Know-how for prevention of Frost Heaving,
Manual for Mountainous Road design,
Guideline for Interchange Planning,
Standard Drawing for Soundproof Walls
Guideline for Road Drainage System

IV. How to create Project-specified Specifications?

▪ Three Basic Bidding or Contract Documents for Actual Construction Projects

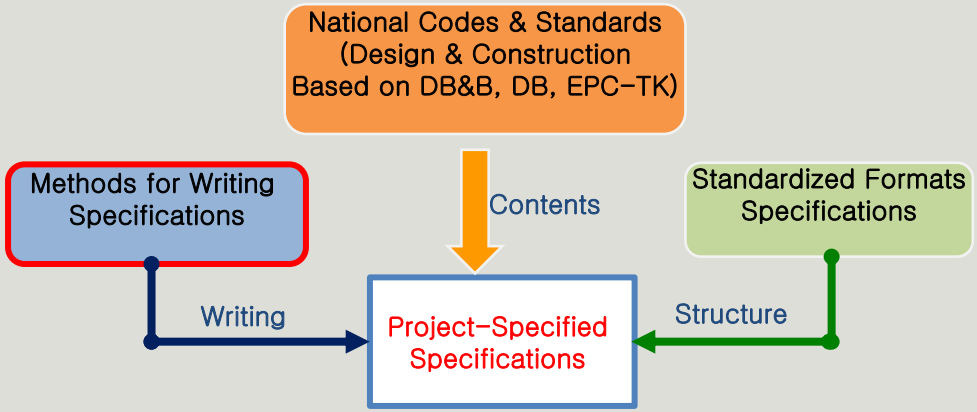
1. Bidding & Contract Requirements
2. Drawings
3. Specifications (Project-specific)



IV. How to create Project-specified Specifications?

▪ Methods for Writing Specifications

Four Methods of Specifying
1. Descriptive Specification
2. Reference Standard Specification
3. Proprietary Specification
4. Performance Specification



1. Descriptive Specifying
Exact properties of materials and methods of installation are described in detail without using proprietary names

2. Reference Standard Specifying
Reference is made to established standards to which the specified products and processes shall comply or conform

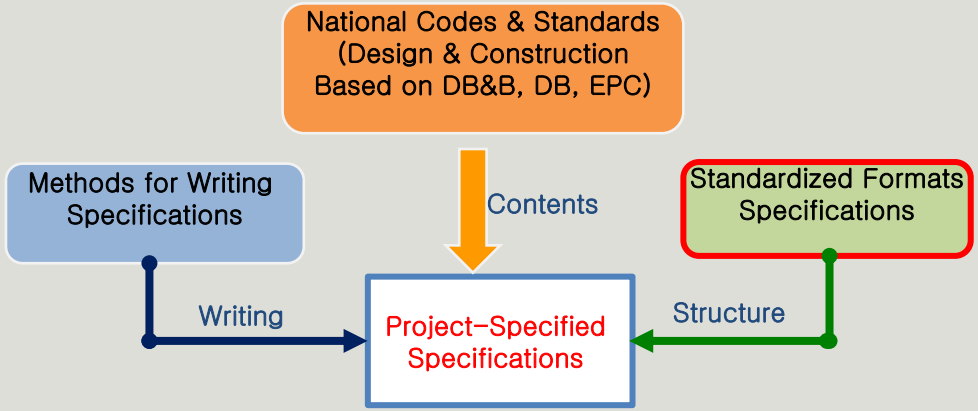
3. Proprietary Specifying
Actual brand names, model numbers, and other proprietary information are specified

4. Performance Specifying
Required results are specified and the criteria are specified by which the performance will be verified

IV. How to create Project-specified Specifications?

▪ Standardized Formats for Specifications

CSI Master Format
Master Format is the specifications-writing standard for building design and Construction projects developed by
the Construction Specification Institute (CSI)



Structure of CSI Masterformat

Level 1 Groups(2)
Level 2 Sub-Groups(5)
Level 3 Divisions(49)
Level 4 Detailed Works & Materials
Level 5 Sub-Detailed W & M
Level 6 Sub-Sub-Detailed W & M
Level 7 User-defined Contents

Number System of CSI Masterformat

Level 3	31 00 00	Earthwork
Level 4	31 41 00	Shoring
Level 5	31 41 16	Sheet Pile
Level 6	31 41 16 13	Steel Sheet Pile
Level 7	31 41 16 13 01	User defines

Modernization of Uzbekistan Building Code (UBC) System

Thank you

국토교통부
Ministry of Land, Infrastructure and Transport

해외건설협회
International Contractors Association of Korea

KICT
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