#### Linking environmental and transportation planning (environmental

#### 1. Introduction

Dear Colleagues:

This survey, sponsored by the National Cooperative Highway Research Program (NCHRP), will collect examples of successful approaches to linking environmental resource planning and transportation planning.

There is a requirement included in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation for a consultation process between transportation agencies and resource agencies during the development of Long Range Transportation Plans, and consideration of available resource plans, maps and data during the transportation planning process.

By participating in this survey, you will contribute to a growing body of knowledge about how transportation and resource agencies and organizations are integrating their planning and data sharing efforts as well as what innovative techniques and approaches others might want to consider, and what issues still need to be addressed.

The results of this survey will be sent to you, and will be posted on several agency-sponsored websites.

In the following survey, the term 'planning' is meant to include:

- · long term and shorter range planning,
- developing goals and objectives,
- gathering and analyzing data and information,
- developing and analyzing maps,
- developing performance measures.
- conducting public involvement, and
- developing a dialogue with other agencies and organizations aimed at the integration of environmental and transportation planning.

We appreciate your response, and also encourage you to forward this survey link to colleagues or partners that you think would be interested in providing input. Please copy Danny Kwan at dkwan@camsys.com when you send this link to others so that we can have a complete record of the distribution of this survey.

The survey for transportation professionals can be accessed at: http://www.surveymonkey.com/s.aspx?sm=HW\_2bSiJh2EplpJN8fb\_2batgg\_3d\_3d

The survey for environmental and natural resource professionals can be accessed at: http://www.surveymonkey.com/s.aspx?sm=TGMVkztW5R7xHk0BkTJ\_2fOQ\_3d\_3d

Questions about this survey can be directed to:

Danny Kwan

Phone: (301) 347-9132 E-mail: dkwan@camsys.com

or to

Shara Howie

Phone: (703) 797-4811

E-mail: Shara\_howie@natureserve.org

Thank you!

### Linking environmental and transportation planning (environmental

U.S. Bureau of Indian Affairs  U.S. Bureau of Land Management  U.S. Department of Agriculture  U.S. Environmental Protection Agency  U.S. Fish and Wildlife Service  U.S. Forest Service  State Department of Nature  State Planning agency  Regional/local parks or env  Tribal Agencies (Please spe	I Resources
U.S. Department of Agriculture  Outson Environmental Protection Agency  Outson Environmental Protectin Agency  Outson Environmental Protection Agency  Outson Environm	ironmental department
U.S. Environmental Protection Agency  Output  Regional/local parks or env  Tribal Agencies (Please spe	
U.S. Fish and Wildlife Service Tribal Agencies (Please spe	
U.S. Forest Service Non-profit organization (Plu	cify part of agency)
	ase specify)
U.S. Geological Survey Other agency or organizati	on (Please specify)
U.S. National Oceanic and Atmospheric Administration (NOAA) Fisheries	
Please specify	
Program/department management	
Program/department management  Policy development/implementation  Biologist/Environmental Scientist  GIS/data management  Other  Other	
Policy development/implementation  Biologist/Environmental Scientist  GIS/data management  Other	
Policy development/implementation  Biologist/Environmental Scientist  GIS/data management  Other  Other  Other, please specify below  3. (Optional) Please provide contact information.	]
Policy development/implementation  Biologist/Environmental Scientist  GIS/data management  Other  Other, please specify below	
Policy development/implementation  Biologist/Environmental Scientist  GIS/data management  Other  Other  Other, please specify below  3. (Optional) Please provide contact information.  Name	
Policy development/implementation Biologist/Environmental Scientist GIS/data management Other Other Other, please specify below  3. (Optional) Please provide contact information.  Name Fitle	

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king environmental and	trancportal	tion plannin	a (onvironme	ntaL
4. Are you actively working w	ith transportation	on agency or or	ganization staff	to
integrate transportation plans including the integration of da				HORES
No, survey proceeds to question 5				
Yes, survey skips to question 17				

## Linking environmental and transportation planning (environmental 3. General Input from Survey Participants Not Currently Involved in Integrated... 5. Are you familiar with the processes and outcomes involved in transportation planning? O Yes O No Comments 6. Do you have a good understanding of what it means to successfully link environmental and transportation planning? O Yes O No Comments 7. What would help you the most in starting the process of linking environmental and transportation planning? Please select your top three or four choices. Support from your organization's upper management for staff to collaborate with transportation agencies/organizations. Changes in organizational structure or staff expertise. Staff incentives (e.g. recognition, funding, etc.) for furthering collaboration between transportation and environmental Annual statewide interdisciplinary planning meetings and/or workshops to assist the transportation and resource agencies'/organizations' efforts to collaborate.

Identification of the key environmental and biological datasets that are needed to inform transportation planning and

Identification of key transportation data and information that are needed to inform environmental planning and decision making.

Regular access to experts in transportation planning to assist in identifying how transportation planning efforts could impact

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Examples of successes in interdisciplinary and collaborative efforts.

Examples of successes in the use of expertise, data and tools.

Other (please specify)

inkir	ng environmental and transportation planning (environmental
	Which transportation agencies or planning organizations would you consult with as
-	rt of your environmental/natural resource planning process? Please check all that
apı	ply.
	State Department of Transportation (DOT)
	Metropolitan Planning Organizations (MPOs)
	Federal Highway Administration (FHWA)/ Federal Transit Administration (FTA)
	Regional Planning Office
	Other (please specify)
_	
	What transportation plans and/or data do you think would be most useful to orm environmental planning? Please check all that apply.
Ш	Transportation corridors and projects proposed in long range plans
	Transportation routes proposed in other plans (such as modal , sub-area or corridor plans)
	Transportation Improvement Programs (TIPs)
	Roadside planting plans
	Road maintenance plans and programs
	Other plans or datasets (list and describe each below)
10.	. Have you had success in obtaining transportation plans and/or data?
$\bigcirc$	Yes
$\tilde{\circ}$	No
Ples	ase explain
ried	ase explain

inform the transportation planning process? Please check all that apply.  Air quality data  Water quality data/hydrological models  Mapped locations of environmental/natural resources  Maps of ESA listed species and associated critical habitat  Mapped wetlands (including functions and values)  Trends of habitat or other ecological units (change in condition over time)  Wildlife corridors/primary location of animal crossings  Infrastructure design recommendations to facilitate animal crossings  Landscaping or roadside planting guidance (to prevent introduction of invasive species, support native species, avoid attracting wildlife, and minimize effects of transportation route maintenance)  Noise/vibration impact guidance (to minimize impact of transportation routes/construction on ESA species and critical habitat		. What environmental/natural resource plans do you think would be most useful to orm the transportation planning process? Please check all that apply.
Ecoregional Plans (The Nature Conservancy)  Other high priority conservation site or area plans (developed by Federal, state, or local agencies or other organizations)  Fisheries/wildlife management/restoration plans  Recovery plans/conservation frameworks for Endangered Species Act (ESA) listed species  Historic preservation plans  Open space plans  Development/land use plans (local, regional or state-wide)  Other (please list and describe below)  12. What environmental/natural resource data do you think would be most useful inform the transportation planning process? Please check all that apply.  Air quality data  Water quality data/hydrological models  Mapped locations of environmental/natural resources  Maps of ESA listed species and associated critical habitat  Mapped wetlands (including functions and values)  Trends of habitat or other ecological units (change in condition over time)  Wildlife corridors/primary location of animal crossings  Infrastructure design recommendations to facilitate animal crossings  Landscaping or roadside planting guidance (to prevent introduction of invasive species, support native species, avoid attracting wildlife, and minimize effects of transportation route maintenance)  Noise/vibration impact guidance (to minimize impact of transportation routes/construction on ESA species and critical habitat		State Wildlife Action Plans (Potential Conservation Opportunity Area Maps)
Other high priority conservation site or area plans (developed by Federal, state, or local agencies or other organizations)    Fisheries/wildlife management/restoration plans     Recovery plans/conservation frameworks for Endangered Species Act (ESA) listed species     Historic preservation plans     Open space plans     Development/land use plans (local, regional or state-wide)     Other (please list and describe below)		Wetland Conservation Plans
Fisheries/wildlife management/restoration plans  Recovery plans/conservation frameworks for Endangered Species Act (ESA) listed species  Historic preservation plans  Open space plans  Development/land use plans (local, regional or state-wide)  Other (please list and describe below)  12. What environmental/natural resource data do you think would be most useful to inform the transportation planning process? Please check all that apply.  Air quality data  Water quality data/hydrological models  Mapped locations of environmental/natural resources  Maps of ESA listed species and associated critical habitat  Mapped wetlands (including functions and values)  Trends of habitat or other ecological units (change in condition over time)  Wildlife corridors/primary location of animal crossings  Infrastructure design recommendations to facilitate animal crossings  Landscaping or roadside planting guidance (to prevent introduction of invasive species, support native species, avoid attracting wildlife, and minimize effects of transportation route maintenance)  Noise/vibration impact guidance (to minimize impact of transportation routes/construction on ESA species and critical habitat		Ecoregional Plans (The Nature Conservancy)
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I Vegetation mapping	attr	
	attr	Noise/vibration impact guidance (to minimize impact of transportation routes/construction on ESA species and critical habitat)
Other (please list and describe below)	attr	

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information	u made efforts to provide environmental/natural resource planning to transportation agency/organization staff?
O Yes	
O No	
Please explain	
•	
	you perceive as the primary obstacles to integrating environmental d transportation planning efforts? Please check all that apply.
_	lity or commitment in your office/division
Inadequate ex	xpertise in your office/division regarding transportation planning activities
Lack of compl	lete, quality and/or appropriate environmental/conservation data
Insufficient st	taff availability or commitment in transportation agencies/organizations
=	lete, quality and/or appropriate transportation related data
Inadequate fu	unding
Communication	on or process barriers
Other	
Comments	
Comments	
15. What els	se, if anything, needs to happen to facilitate the integration of
	se, if anything, needs to happen to facilitate the integration of tal resource and transportation planning?
	tal resource and transportation planning?
environmen	tal resource and transportation planning?
environmen 16. What els	tal resource and transportation planning?  se would make environmental/environmental resource planning
environmen 16. What els	tal resource and transportation planning?  See would make environmental/environmental resource planning a with transportation agencies/organizations more effective?
environment	tal resource and transportation planning?  se would make environmental/environmental resource planning
environment	tal resource and transportation planning?  See would make environmental/environmental resource planning a with transportation agencies/organizations more effective?
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environmen 16. What els	tal resource and transportation planning?  se would make environmental/environmental resource planning with transportation agencies/organizations more effective?

General Input f a  17. Overall, do you your environment transportation pla  Yes, survey will procee  No, survey will skip to  18. If yes, what is	ed to question 21 after this page
17. Overall, do you your environment transportation pla  Yes, survey will procee  No, survey will skip to  18. If yes, what is	u think you have been successful in improving the effectiveness tal/environmental resource planning process by integrating anning?  ed to question 21 after this page
your environment transportation pla  Yes, survey will proceed No, survey will skip to  18. If yes, what is	tal/environmental resource planning process by integrating anning?  ed to question 21 after this page question 33 after this page
Yes, survey will proceed No, survey will skip to  18. If yes, what is	ed to question 21 after this page
No, survey will skip to	question 33 after this page
18. If yes, what is	
• •	
of your environme transportation pla	s the primary reason for your success in improving the effective ental/environmental resource planning process by integrating anning?
папорогошног ра	<u>A</u>
Please describe  20. Are you aware	e of other success stories? Please provide a point of contact
(including name,	email, phone #, agency or organization and title of effort) for o
efforts to integrat	te environmental resource and transportation planning.
Point of Contact 1	
Point of Contact 2	
Point of Contact 3	
Point of Contact 4	

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# Linking environmental and transportation planning (environmental 5. Example of Integrated Planning 21. Example of Integrated Planning Effort. Please describe your experience in successfully integrating environmental resource and transportation planning (integrated planning). Description: (please provide a few words that best describes your integrated planning example) How did this integrated planning effort get initiated? What helped to get the integrated planning process started? What was the geographic scope of this integrated planning effort? Who had a major role in the integrated planning process (list names and agencies/organizations)? 22. What type of transportation plans and data were available to you? Please check all that apply. Transportation corridors and projects proposed in long range plans Transportation routes proposed in other plans (such as modal , sub-area or corridor plans) Transportation Improvement Programs (TIPs) Roadside planting plans Road maintenance plans and programs Other plans or datasets (list and describe each below) 23. Were the transportation plans, data, maps, and agency personnel readily accessible? O Yes O No Please explain

	level environmental resource planning goals in consultation	with transportation recour	ce staff
=			
ш	v independent analyses (i.e., overlay environmental resource nform the environmental resource planning process.	e and transportation plans	, evaluating land use
Other (describe	2)		
	,		
25. Describe	the integrated planning process that y	ou used. Did the	process involve
Identifying conserva	tion targets?	Ö	Ö
Data/information ga	thering?	Ŏ	Ŏ
Identifying data/info	ormation gaps?	Ō	Ō
Data analyses?		0	Ŏ
		$\tilde{}$	$\tilde{}$
Joint scenario plann conservation and tra	ing (joint evaluation of land use scenarios based on insportation goals)?	0	0
conservation and tra		0	0
conservation and tra Discussions with env Other Other (please specif	re successful outcomes resulting from	0	f environmenta
conservation and tra Discussions with env Other Other (please specif	re successful outcomes resulting from	0	f environmenta
conservation and tra Discussions with env Other Other (please specification)  26. Were their resource and transportatio	re successful outcomes resulting from	0	f environmenta
Other (please specification)  26. Were their resource and transportatio  Yes  No	response resulting from a planning?	0	f environmenta
Other Other (please specifications)  26. Were the resource and transportatio  Yes  No  27. If yes, will	re successful outcomes resulting from	0	f environmenta
Other (please specifications)  26. Were the resource and transportatio  Yes  No  27. If yes, will outcome 1	response resulting from a planning?	0	f environmenta
Other (please specifications)  26. Were their resource and transportation  Yes  No  27. If yes, will outcome 1  Outcome 2	response resulting from a planning?	0	f environmenta
Other (please specifications)  26. Were the resource and transportatio  Yes  No  27. If yes, will outcome 1	response resulting from a planning?	0	f environmenta

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29. If yes, what were these outcomes?  Octomes 2  Octomes 3  Octomes 4  Octomes 3  Octomes 4  Octomes 4  Octomes 5  Octomes 6  Octomes 6  Octomes 6  Octomes 7  Octomes 7  Octomes 7  Octomes 8  Octomes 8  Octomes 8  Octomes 9  Octom	inking environmental and transportation planning (environmental	Linking environmental and transportation planning	(envi	ronme	ental
33. What are your top 3 choices of environmental expertise that were most helpful in your success of integrating and evaluation planning? Please rank in order (with 1 being highest) by choosing one selection for each number.    Solution   Sol	29. If yes, what were these outcomes?	6. Summary of Integrated Planning Experience			
30. Did you make information related to environmental/natural resource plans available to transportation agencies/organizations?  \[ \text{Nes} \times \time	Outcome 2 Outcome 3 Outcome 4	your success of integrating environmental and transportation planning? Please rank in ord			-
available to transportation agencies/organizations?  Yes  No  17 no, why?  31. Regarding the question above, please describe the type of information provided.  32. How did transportation agencies/organizations use this information in their planning process?  34. What are your top 3 choices of transportation expertise below  35. What are your top 3 choices of transportation expertise that were most helpful in your success of integrating environmental and transportation planning? Please rank in order (with 1 being highest) by choosing one selection for each number.  Expertise in transportation routes proposed in clier plans (such as modal , sub-area or corridor plans)  Expertise in transportation repressed in clier plans (such as modal , sub-area or corridor plans)  Expertise in transportation imprevement Programs (TIPs)  Expertise in transportation expertise  Other types of transportation expertise  Other types of transportation expertise that were most helpful in your success of integrating environmental and transportation planning? Please rank in order (with 1 being highest) by choosing one selection for each number.  Expertise in transportation myrevement Programs (TIPs)  Expertise in transportation expertise  Other types of transportation expertise  Other types of transportation expertise in order division manual plans and programs  Other types of transportation expertise  Other types of transportation expertise  Other types of transportation expertise in transportation expertise in the Transportation expe	30. Did you make information related to environmental/natural resource plans			2	
Yes   No   No   No   Properties in the adequalition to support conservation   Superties in land acqualition   Superties in l					Ö
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31. Regarding the question above, please describe the type of information provided.  32. How did transportation agencies/organizations use this information in their planning process?  34. What are your top 3 choices of transportation expertise that were most helpful in your success of integrating environmental and transportation planning? Please rank in order (with 1 being highest) by choosing one selection for each number.  Expertise in transportation corridors and projects proposed in long range plans Expertise in transportation routes proposed in other plans (such as modal, sub-area or corridor plans) Expertise in the Transportation Improvement Programs (TIPs) Expertise in roadside planting plans Expertise in road maintenance plans and programs Other types of transportation expertise	ii no, wny?	Expertise in integration and analysis of environmental data with other datasets	0	0	0
32. How did transportation agencies/organizations use this information in their planning process?  34. What are your top 3 choices of transportation expertise that were most helpful in your success of integrating environmental and transportation planning? Please rank in order (with 1 being highest) by choosing one selection for each number.  Expertise in transportation corridors and projects proposed in long range plans Expertise in transportation routes proposed in other plans (such as modal, sub-area or corridor plans) Expertise in the Transportation Improvement Programs (TIPs)  Expertise in roadside planting plans Expertise in road maintenance plans and programs Other types of environmental expertise below  34. What are your top 3 choices of transportation expertise that were most helpful in your success of integrating environmental and transportation planning? Please rank in order (with 1 being highest) by choosing one selection for each number.  Expertise in transportation routes proposed in other plans (such as modal, sub-area or corridor plans)  Expertise in transportation Improvement Programs (TIPs)  Expertise in road maintenance plans and programs Other types of transportation expertise	21 Departure the greation phase places describe the true of information availed		0	0	$\circ$
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		Expertise in roadside planting plans		<u> </u>	O
		Expertise in road maintenance plans and programs	Q	Q	Q
Please list and describe other types of transportation expertise below		Other types of transportation expertise	$\circ$	$\circ$	$\circ$
		Please list and describe other types of transportation expertise below			

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Available or Not Available)		II) Are			ulness able no	of the: ow? (C	
	1 - less				F		
	useful	2	3	4	5 - most useful	Available	Avail
State Wildlife Action Plans (Potential Conservation Opportunity Are Maps)	a	Ш	Ш	Ш	Ш	Ш	L
Wetland Conservation Plans							
Ecoregional Plans (The Nature Conservancy)							
Other high priority conservation site or area plans (developed by Federal, state, or local agencies or other organizations)							
Fisheries/wildlife management/restoration plans	$\Box$	닏	Щ	$\perp$	$\Box$	닏	Ļ
Recovery plans/conservation frameworks for Endangered Species Act (ESA) listed species	Ш	Ш	Ш	Ш	Ш	Ш	L
Historic preservation plans							
Open space plans							
Development/Land use plans (local, regional or state-wide)							
Other plans							
Other (list and describe each below) or additional comments							

Availating data  Water quality data  Water quality data/hydrological models  Wapped locations of environmental/natural resources  Maps of ESA listed species and associated critical habitat  Mapped wetlands (including functions and values)  Trends of habitat or other ecological units (change in condition over lime)  Wildlife corridors/primary location of animal crossings  Infrastructure design recommendations that facilitate animal crossings  Infrastructure d	Available or Not Available)	1 - less	2	3	4	5 - most	Available	Not
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Mapped locations of environmental/natural resources  Maps of ESA listed species and associated critical habitat  Mapped wetlands (including functions and values)  Trends of habitat or other ecological units (change in condition over time)  Wildlife corridors/primary location of animal crossings  Infrastructure design recommendations that facilitate animal crossings  Landscaping or roadside planting guidance (to prevent introduction of invasive species, support native species, and minimize effects of transportation route maintenance)  Noise/vibration impact guidance (to minimize impact of transportation routes/construction on ESA species and critical nabitat)  Vegetation mapping  Other data		H	H	H	님	片	$\vdash$	F
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Vegetation mapping	Noise/vibration impact guidance (to minimize impact of transportation routes/construction on ESA species and critical							
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	Other data							
	Vegetation mapping  Other data  Other (list and describe each below) or additional comments							

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Models of potential species/habitat locations (predictive range maps)  Model projections of future climate and ecological change (temperature, precipitation, relative sea level rise, storm frequency/intensity)  Models of land use  Predictive archeological models  Models of population dynamics  Models of noise and other effect from roads dependent on size of road  Models of stormwater runoff  Travel demand models	Models of potential species/habitat locations (predictive range maps)  Model projections of future climate and ecological change (temperature, precipitation, relative sea level rise, storm frequency/intensity)  Models of land use  Predictive archeological models  Models to assess environmental impacts  Models of noise and other effect from roads dependent on size of road  Models of stormwater runoff  Travel demand models  Other models	(would be) useful in achieving integrated these models. (1 being less useful and 5 b	-	-					
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Other useful models (list and describe each below) or additional comments	Other useful models (list and describe each below) or additional comments	Travel demand models							
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Support from your organization's upper management for staff to collaborate with environmental resource agencies/organizations.	useful	0	0	0	usef
Changes in organizational structure or staffing expertise.	$\circ$	$\circ$	$\circ$	$\circ$	$\circ$
Staff incentives (e.g. recognition, funding, etc.) for furthering collaboration between transportation and environmental resource planning.	Ŏ	Ŏ	Ŏ	Ŏ	Č
Annual statewide interdisciplinary planning meetings and/or workshops to assist he transportation and environmental agencies'/organizations' efforts to collaborate.	0	0	0	0	С
A process to ensure that environmental considerations are taken into account at all levels of transportation decision- making (e.g., decisions made during the planning phases are communicated during project implementation).	0	0	0	0	С
examples of successes in interdisciplinary and collaborative efforts.	0	0	0	0	С
Examples of successes in the use of expertise, data and tools.	Ō	Õ	Ō	Ō	Č
dentification of the key environmental and biological datasets that are needed o inform transportation planning and decision making.	Ŏ	Ŏ	Ŏ	Ŏ	Č
dentification of the key transportation datasets that are needed to inform environmental resource planning and decision making.	0	0	$\circ$	0	C
Availability of toolkits and Q&A summaries on how to meet SAFETEA-LU provisions for long-range transportation planning.	$\circ$	$\circ$	0	0	C
Regular access to transportation planning experts to assist in identifying ransportation goals, accessing 'best available' transportation data, and soordinating transportation planning as part of larger environmental resource planning process.	0	0	0	0	C
Other	0	$\circ$	0	$\circ$	C
Other (please specify)					
89. List computer systems/tools that you currently tenvironmental and transportation plans, data and/oblanning. Describe function that makes tool most us	or map		•		-
ystem/tool #1					

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41. What would you change to make environmental resource plans, data, or maps more useful for transportation planning?	
more ascial io	k v
	ld you change to make transportation plans, data, or maps more use ntal resource planning?
or environme	intal resource planning:
	y
	other things, not addressed in this survey, that you think would make
	resource planning consultation with transportation inizations more productive or effective?
agencies/ or ga	mizations more productive or effectives